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Art Returns to Education

A. C. KREY

"The great teacher makes use of numberless minute details in the field of observation—details which educational science has not yet measured."

THE title of this paper may be misleading. Let me therefore explain that this discussion does not attempt to cover Thomas Craven's favorite topic, nor what Stuart Chase saw in Mexico, nor the themes of Keppel and Duffus regarding adult education. Even the Owatonna Art Project, which has so firmly gripped the attention of one of our leading educational scientists, is here neglected. Although educational literature has recently devoted generous space to all these aspects of art, it would be quite appropriate to offer another article on that subject, indeed, many more articles. This essay, however, is devoted to a more commonplace, perhaps more comprehensive, view of art; it is concerned with teaching. This teaching may consist of instruction in any subject at all—in grammar or physiology, in mathematics, or in literature, or even in art.

There was a time which the new generation of teachers never knew, but the older cannot forget, when teaching was generally referred to as an art. There seemed no other way to define what good teachers did or how they did it. Under this caption, Mark Hopkins and his legendary log have long occupied a niche of fame. David Starr Jordan in biology, David Eugene Smith in mathematics, Frederick Jackson Turner and Henry Johnson in history, Mark Jefferson in geography, and William Rainey Harper in Semitics are among the great teachers most often characterized as artists. It is true that attempted description of their methods by their former students has nearly always proved inadequate. There is usually a margin, covered by a wide gesture, that marks the decisive element in their teaching as their students recall it. Only the

word "art" can be used to describe skill of the order possessed by these great teachers.

The writer recalls one particular effort to discover the secret of great teaching. One of Turner's students, who seemed to have most nearly acquired that master's genius in teaching, was invited to teach for a summer at one of the great universities. Though teaching in a small college he had probably sent more students on to graduate work in the field of social sciences and law than any living teacher. His students had made a consistently high record in the graduate school of the university referred to, and many of the faculty there were curious about his method of instruction. His work there was watched with the greatest interest by these persons. His method, however, defied description. Whatever could be described was largely commonplace or worse, and yet his effect upon the students there was unmistakable. The secret seemed to lie in the indescribable—in the art of his teaching.

BUT times changed. Science became the dominant subject in the universities. This position, formerly held by theology, then by philosophy, then by the classics and mathematics, had been gained after an epic struggle. Not only was this advance resisted by academic rivalry; theologians invited the rank and file of the public generally to resent this new attack upon the fundamentals of their faith. Even humanism had not been called upon to face such highly organized opposition and bitter controversy. The final victory was only partially won by the logic of argument; for the series of apparent miracles wrought by the application of science to technology actually carried the day. Oddly enough, the general populace, first arrayed against science as the enemy of religion, soon accepted its decrees with the highest esteem. In at least one large society, its miracles have been accepted as greater than those of religion. There science has been virtually elevated to the status of a cult.

The dominance of science within the academic circle, while much less spectacular, has nevertheless become real. Subjects, once proudly boasting their link with theology, began to develop scientific methods and the humanities followed after them. Some of these subjects had taken on scientific methods long before science had won its final victory; others yielded one after the other. Even literature developed scientific methods of study. These concessions were not, however, mere devices of protective coloration to insure academic survival. Science had opened up new vistas of intellectual effort, and most of these subjects were clearly enriched by the new approach. Psychology, still largely tied to the apron strings of philosophy well into the first decade of the present century, began to adopt scientific methods about that time. One aspect of its work, study of the organs involved in the expression of ideas and emotions, fell easily into the methods and procedures of the biological sciences, and many results of this work have been accepted as vital contributions to those sciences.

It was the other phase of the psychologist's work, however, the study of the expression of ideas and emotions, which has a more definite bearing upon our immediate problem. This field presented greater difficulties to the application of scientific methods. Nevertheless, the work of Binet and others suggested an approach to these problems which had many of the characteristics of science. The earliest of these studies were concerned with the measurement of intelligence, and the success of these studies in the discovery and treatment of feeble-mindedness opened a new avenue to psychological investigation. It remained for E. L. Thorndike to apply this method to the whole field of education and teaching. The brilliant success of his earlier work captured the imagination of a waiting world. Students flocked to his seminar in great numbers, and the demand for students trained by him far outran the supply. The statistical method so extensively used by him not only partook of the quantitative measurement used by science, but also of the methods of business which dominated the secular world. It seemed as though every school system in the country desired someone trained in the new method. A new profession of educational measurement sprang into existence almost over night, and the study of education was revolutionized. Its slogans were "science" and "efficiency," and the combination made an irresistible appeal.

The general public, already won by the triumphs of both science and business, was thoroughly conditioned to expect just as miraculous results from the application of their methods to education. The new educational research could not be applied quickly enough to the whole range of educational problems to satisfy this public. Students who had barely mastered the elementary aspects of either psychology or statistics were placed in responsible positions to measure educational efficiency. Nor was the public denied its expected miracles—miracles, because so contrary to the conventional academic opinion. Tests of intelligence threatened to drive the traditional palm-reading, star-gazing, skull-feeling fortune-tellers out of business. The application of such tests to young children were thought to furnish a positive index to success or failure in life, and parents planned either for an old age of easy leisure, if their offspring were revealed as gifted, or reconciled themselves to a life of continued drudgery, if their children showed up near the other end of the scale. But this was only one of the miracles wrought. Batteries of tests were developed for various problems of education. Pupils hitherto regarded as subnormal were revealed to have achieved satisfactory, or more than satisfactory, progress, while others hitherto regarded as superior were proved to be only mediocre. Individual pupils considered capable of greatly advanced work by the results of these tests were hurtled over prerequisite courses and found to do as well or better than others who had had all the prerequisites. School administrators began to promote nearly all pupils grade by grade instead of suffering continual traffic jams from

the retarded in the lower grades. Large-size classes were found to be not only as good as small-size classes, but very much more efficient. Tests applied to the upper high-school years indicated that students were just as well or better prepared for college work at the end of the third year as were those who had completed the four years. And these findings were expressed in quantitative symbols, accompanied by line and bar graphs—a method of presentation that conveyed all the precision and assurance to which scientific work in other fields had accustomed the public. When the new educational science entered the classroom, art fled through the rear door or was driven out.

THE writer was present at a gathering at which one of the most distinguished teachers of the English university world described to an American academic audience the system of education in England. He dwelt in some detail upon the examination system by which England selects its ablest pupils for advanced study. In the informal discussion which followed, a professor of education asked him why he was so certain that such an examination did select the best. The visitor started upon an explanation, then evidently concluded the task was hopeless and contented himself by saying with an eloquent gesture, "You can just smell the best ones."

To some of that audience his inability to answer the question in precise statistical manner was a confession of failure. Similar claims of teachers of high reputation in this country had already been riddled by the new educational research. Essay examination papers which had been rated high by such teachers were submitted to other teachers of reputation scattered widely over the whole country. This was done in several fields of subject-matter. Almost invariably the examination paper submitted to such scrutiny received as many different marks as there were teachers marking the paper, and the range in nearly every case ran all the way from excellent to failure. This appeared to be true not only of papers in English, but in mathematics as well. In the face of such evidence, the old-fashioned teacher with his essay-type examination stood condemned. His judgment of his student's work was denounced as pure opinion, subjective and unreliable. There was seemingly nothing that he could say in his own defense. Testimony of former students to his surpassing art as a teacher, or stubborn belief in his ability to "smell good students" appeared to be a mere blind faith. The general public accepted this demonstration as another of the miracles of the new scientific research.

Not only was the teacher's judgment of the pupil's worth questioned by the new research, but what he taught and how he taught were equally scrutinized. Each day's work, each item in each day's work had to have definite "objectives" whose attainment must be measured by means of the new scientific tests. Methods of teaching were recognized as presenting difficulties, but efforts were made at leading centers of educational research to devise methods more scien-

tifically established. These yielded several fairly elaborate procedures which extended over large units of work and contained definite steps, both major and minor. With subject-matter thus definitely analyzed into attainable objectives and method carefully elaborated into precise steps and tests both efficient and precise, teaching tended to become completely scientific and art to be banished from the classroom.

For a while it seemed not only that art would be eliminated from teaching, but that the teacher, too, might be safely eliminated. Among some persons there was hope even (or fear) that the goal of efficiency might be so thoroughly realized that the nation's whole educational task could be accomplished by means of radio lessons, standardized tests, and a Hollerith machine located at some central place. In that event the local communities might dispense with all the school staff except the janitor who could, perhaps, manipulate the radio, distribute and collect test papers, and ship them on to the central bureau. That end would, in fact, have represented hardly a greater miracle than some already accepted in education.

A GENERATION of experience with the scientific procedure, however, is a long time. The very rapidity of the spread of educational measurement was itself bound to result in hasty, slip-shod work. The cautious, painstaking, much criticized procedure of the earlier, simpler work in educational psychology was abandoned under the insistent widespread demand for, and acceptance of, results. Measurement was applied to the highly complex problems of educational achievement at advanced levels with a reckless disregard for the tentative and scholarly qualifications with which the earlier work had been surrounded. Many of the too readily accepted miracles in this area were found fallacious by the test of time. Even the general public began to have its doubts. Such doubts have appeared in increasing numbers and have been voiced recently in extremely vigorous fashion. It is not necessary to repeat that discussion here. The writer will content himself with the expression of his own view—that it would be just as undesirable to let the extreme skeptics of today have their wish of eliminating all scientific measurement from education as it was for an overindulgent public to accept too readily as final fact what should have been regarded merely as venturesome first steps in educational appraisal.

It would seem possible in this more chastened atmosphere to reconsider the relation of art and science in teaching. Are art and science antithetic, as is usually assumed? Are they mutually exclusive? Is the area of good teaching, sometimes alluded to by gesture and the single word "art," incapable of fuller and more precise description? Is science as altogether free from the operation of imagination and judgment, "subjective opinion," as some have supposed? Is statistical terminology the only, or the final, expression of true science? Frank and unbiased investigation of these questions should go

far toward the solution of a problem which is fundamental to education today.

True science, whose methods other subjects proudly imitate, is concerned with the physical and biological universe. Its premise is accurate observation of the phenomena involved. For reasons of expediency, the field has been divided and subdivided as the items or details observed have been multiplied. The first effort of all of the sciences, and of each of them separately, is to identify every element in the field of vision. Progress in science has depended, in the first analysis, upon the increase in the identification of the separate elements in each field of vision. This end is attained by continuous refinement of scientific instruments of observation and by the invention of terms of identification for the additional elements observed. Next to observation and identification of elements, science is concerned with a study of relationship between the elements observed. Observation is usually instantaneous whereas relationship involves the element of time. Rarely, therefore, is the scientist able to observe relationship. To discover relationship, he is forced to make conjectures or invent an hypothesis. He arrives at his hypothesis through the use of imagination. This hypothesis represents his judgment or opinion. As such, it is not accepted by science until verified. Verification involves repeated observation at intervals of time. If the hypothesis is confirmed by repeated observation, it may be described as successful prediction. Since, however, the scientist can rarely, if ever, actually observe the relationship, he finds it essential to repeat his observations often enough to eliminate all chance factors. Mathematics is of help to him in this study of relationship and may be of help in observation, but in neither case is it the beginning of the process and seldom, if ever, the end. This is true of all the natural sciences where mathematics is used. It is true even of Einstein's theory of relativity, which began with certain observations in astronomy and physics and will require long observations in both fields before it can be fully accepted by science. All hypotheses or theories in science may be promulgated before they are confirmed by sufficient observation and may serve the scientist until they are overthrown by contrary observations. If these statements are true of all the sciences, then educational research must also comply with them, if it would be truly scientific.

MOST discussions of science and art have tacitly at least assumed that these fields are quite separate. A few illustrations might be examined to test the validity of such a dichotomy. Good cooking, for example, is usually referred to as an art, and good cooks are notorious for their inability to communicate the secret of their success to others. Now cooking, like teaching, has received the benefit of science in recent years. Formulas for nearly every dish have been determined by laboratories and are available in books, appear serially in periodicals, and are taught in departments of domestic science. Some

public restaurants are now provided with dieticians who not only select the formula for each dish, but even provide the patron with a statistical table of the carbohydrates and vitamins in each item of diet. And yet, there are few patrons of such scientific cooking who cannot testify to many highly unsatisfactory meals at these restaurants.

Some light may be thrown on this disparity between theory and practice by the testimony of a friend who has the reputation of making excellent coffee. His coffee is almost uniformly strong and sweet, whereas, the coffee made by the cook varies greatly in excellence. His explanation of the difference is that he uses the formula as a guide not as a mandate. He uses more coffee if the bottom of the can has been reached, less if a newly opened can is at hand. He watches the coffee heating, using more time if the gas is burning fitfully or the percolator is jammed, less if the gas burns evenly with a strong flame and the percolator is operating smoothly. He checks on the color and odor of the coffee before removing it from the fire. The procedure of the cook, on the other hand, was to measure out exactly the quantity of coffee and water, place the pot on the fire, and remove it after the stipulated time had passed. Her method might be described as scientific, his as art, yet the difference apparently lay in the fact that he took more factors into account than did she. If one of the demands of science is the inclusion of as nearly all the factors in the field of vision as possible, then he was really more scientific than she.

Painting is an art, anatomy a science, yet a remarkably strong case could be drawn up to prove that painting transformed anatomy into a science. When modern painting entered upon its career, from Giotto onward, the Florentine school of painters cherished as one of its desired goals the exact representation of reality. To attain this aim more nearly, the painters made a careful study of the human form and its expressions. Their study led them on from the robed figure to the nude, from the nude to the muscles beneath the skin, from the bones to which the muscles were attached to the organs that affected the operation of both bone and muscle. Being painters not doctors, they studied the human body, not books. Also since they were painters trained in draftsmanship, they recorded what they saw. One learned from another. The line of progress may be traced from Massaccio to Uccello, to Pollaiuoli, to Verrochio, to Signorelli, to Leonardo da Vinci and Michelangelo. By the time of Leonardo da Vinci, the professors of medicine had come to recognize the service of the painters. Learning their anatomy from Galen and from other authoritative writings, the medical men had failed to see all that the painters saw. Modern anatomy credits Leonardo da Vinci with the discovery of several details of anatomy not hitherto recognized. The painters had revealed to the physicians the possibilities of more careful observations and had provided them with a method of recording and transmitting these observations infinitely more precise and complete

than words alone could afford. Today, the microscope and photography have extended the anatomist's powers of observation, recording, and transmission, but it may be safely said that painters made anatomy truly a science. Are the more accurate observation and more complete records that painting offered to anatomy to be regarded as art or science?

FINALLY, let us consider an illustration more immediately related to the theme of this article. The writer has had occasion to observe a number of different teachers employing one of the more elaborate methods developed at a leading center of educational research. The method involves five major and many minor steps. If eager attention, intelligent discussion, and other signs of active interest on the part of the pupils may be considered satisfactory indexes to good teaching, the method was least successful with teachers who adhered most closely to all the details of the formula. It was most successful in the hands of those teachers who took liberties with the formula. The best results with this method, as seen by the writer, were obtained by one of the teachers at the institution in which the method originated. This veteran teacher has adapted his methods to scientific findings, although he had already won distinction in his profession before the scientific revolution in education was under way. When the visitor asked why he was departing from the strict letter of the formula, this teacher quickly recited a number of circumstances peculiar to that community, the school, the particular class, and the time of year which made it advisable to modify the procedure. Is the formula to be regarded as science, its modification as art?

Doubtless the reader will recall other illustrations of the same kind and with the same result. These three, however, are sufficient to reveal the fact that there is no real conflict between art and true science. At the most the only dichotomy would seem to be that reputed "science" is so much of good teaching as has thus far been statistically expressed. To stop there would be as abhorrent to science as to art.

As indicated by the last illustration, teaching, like other fields of scientific study, involves a multitude of as yet unidentified, untabulated items and elements. Some of these elements cluster about the teacher's presentation of his subject. This process involves the selection of words suitable not only to the subject, but also to the understanding of the pupils in the class. It also involves deliberate variation of matter and a determination of the amount of illustration to be used in proportion to generalization. It involves, too, variation from the less serious to the more serious, from the grave to the gay—procedures essential in sustaining the attention of any class or group. Gestures as well as words, action as well as reflection, are all included in the process which the experienced teacher uses in presenting his material.

Another group of these unidentified elements clusters about the teacher's sensitivity to all that takes place in the classroom and the rapidity of his

adjustment to particular occurrences. Such happenings may be as trivial as the yawn of a single pupil. This may reveal only a physical idiosyncrasy of the individual pupil, or his lack of sleep the previous night, or personal indifference to the particular phase of the subject under discussion; or it may indicate that the air in the room is becoming stale, or that the interest of the class is beginning to lag and that attention may soon be lost. An alert teacher will notice this yawn almost immediately, will appraise its true meaning, and will make the required adjustment in a brief fraction of time. A less alert teacher, intent either upon covering certain ground, or upon adhering to a complicated teaching procedure, may not even notice the gesture. Similar symptoms of failing interest may accumulate without being noticed until the attention of the class is quite lost. Chronic disregard of such symptoms may cause general irritation with, and ultimate dislike of, the teacher—a state of affairs sufficiently serious to disqualify a teacher even well versed in the subject-matter. The process of noting such incidents, appraising their significance, and making necessary adjustments is usually rapid. The necessity for such discrimination occurs so frequently even in the course of a single recitation that the veteran teacher, describing the conduct of his class, even immediately after its dismissal, would probably fail to mention a single one of the trivial incidents cited. Yet his quick and successful dealing with them was a large factor in his own success.

Perhaps a much larger group of the unidentified elements in teaching clusters about the teacher's appraisal of the pupil's achievement and ability. Much of this operation is cumulative in nature. It involves consideration of the pupil's opportunity to learn each aspect of the work. The varying emphasis upon different parts of the subject by the teacher, the probable availability of essential or desirable supplementary material, and the vicissitudes of the school year are important factors. The teacher accumulates such data for each class each year. The record is never the same for any two classes, and at times the differences are great enough to cause modification in the appraisal of the same work in the two classes. The teacher's appraisal of the pupil involves also the cumulative knowledge of that pupil's past performance. The pupil's capacity for knowledge, his prospects of continued growth in a particular field can be determined only by the perspective of successive performances. This appraisal also involves the teacher's knowledge of the relationship of the pupil's performance to probable success in further study of the field and in life itself. This knowledge is also cumulative. It involves not only the teacher's knowledge of the field of work still lying before the pupil. It also involves the teacher's knowledge of the success or failure of comparable appraisals made by him when tested out by the actual performance of pupils in later study and in life. The accuracy of the appraisal of any pupil's achievement in a given course, and of his

ability to succeed in more advanced courses in that and related fields is dependent upon how fully the teacher takes into account all these cumulated factors. These varied considerations are so numerous, so minute, and all of them utilized so quickly and so unconsciously that few teachers would mention them as factors in an appraisal. Nearly all teachers would probably say that they appraise a pupil on the basis of his final examination. Yet it is precisely because they do include all these other variant factors that a hundred equally good teachers scattered over a wide area will mark the same examination paper differently. The accuracy of their appraisal will depend upon the degree to which they approximate in their consideration all the factors surrounding that particular paper. Assuming the hundred teachers to be equally able, the most accurate appraisal will be made by the teacher whose pupil wrote the paper. It was probably the British educator's vague awareness of these innumerable concomitant factors, which teachers have seldom if ever put into words, that led him to feel confidence in the English system of choosing between scholarship candidates.

AS OBSERVATION penetrates more fully the margin of teaching still covered by the term art, other clusters of hitherto unidentified elements will doubtless be disclosed. Those here recognized, however, suggest that education, like the other sciences, must discover additional methods of observing, recording, and transmitting if it is to make serious advances. As in the case of anatomy, words alone are inadequate. Possibly terms may be devised to which can be assigned a precise meaning and, between scholars at least, these terms may be used for precise communication. Words in ordinary usage commonly applied to teaching have at present too many shades of meaning to convey such precise information.

The science of statistics, too, which has already been widely used, is of help and can be made more so. Too often it has been applied to phenomena described in words that lack the desired precision. A superstructure of statistics erected on such a base can scarcely be considered stable or useful. Thus far, also, statistics have been applied too narrowly to those already identified elements which occur most frequently. The effort to standardize tests for nation-wide use probably has accentuated this tendency. The identified elements common to a hundred courses of the same name scattered through the schools of the nation form so small a residuum of material that tests based upon this meager residuum bear but little actual relation to the teaching done in any one of those courses. The complexity and the great variety of elements involved in teaching in almost every field deprive such tests of any real sampling value. Indeed, in some cases, proficiency in meeting such tests may better be interpreted as evidence that the student is not qualified for advanced study in that particular field. The presence of manual dexterity does not necessarily indicate a successful surgeon, nor does proficiency in spelling

a limited number of words indicate a successful literary career. Needleworkers and typists could probably meet such tests better than surgeons or writers. Statistics will be more useful when the elements to which they are applied have been more precisely defined. They will also be more helpful in analyzing and synthesizing the results of tests when tests are so constructed as to sample a wider range of the learning and teaching process than they now do.

It is clear that further methods of observation must be employed and other methods of recording must be found before the scientific study of teaching and of the results of teaching can have much practical value. Neither words nor statistics at present quite describe the quick observation, appraisal, and adjustment that the successful teacher is called upon to make many times in the course of a single recitation. Educational psychology should be able to devise some method of measuring and recording this part of the teaching process. Even more challenging is the description of the cumulative patterns which the teacher develops and uses in the appraisal of the student's achievement and ability. The almost instantaneous use of this highly complex pattern of factors must figure as an element in any description. What the great teacher does conforms to most of the requirements of true science, in so far as his methods involve accurate observation of the field of vision, formulation of hypotheses as to the relationship of the elements observed, and verification of these hypotheses by trial and further observation. But he makes use of numberless minute details in the field of observation—details which educational science has not yet measured. He arrives at calculations of relationship which include a whole gamut of small and large factors not easily included in precise formulas. Furthermore, he may compute both the observation and the calculation in so brief a fraction of time that he himself may fail to notice what has occurred. Educational science no doubt can find ways of measuring more nearly a process that, in essence, conforms to the requirements of science. After this desired end is achieved, however, there will doubtless be left a margin which, for want of more accurate description, remains to be called art. Thus, however tantalizing the pursuit, the art of teaching returns to education, not as an enemy, but as an incentive, to science.

Reading Difficulties in College

By WILLIAM S. GRAY

The Nature and Extent of Reading Deficiencies among College Students

TWO decades ago most college teachers took for granted that their students had acquired satisfactory reading habits. The assumption prevailed, therefore, that there were few or no reading problems at the college level. In the course of time, the fact was recognized that some students read so rapidly and well that they could easily do more than the usual amount of assigned work. In order to enable them to work at their maximum capacity, new opportunities were provided, such as reading for honors and pursuing independent study programs. Significant as these provisions were, they affected the welfare of only superior students.

During the last decade, the deficient reader also has been identified. As his achievements and needs have been studied, it has become increasingly clear that he is seriously handicapped in efforts to do successful college work. Indeed, the view has been expressed in many quarters that such students either should not be admitted to colleges or should be given training that will enable them, if possible, to do college work satisfactorily. In the discussion that follows, I wish to support the contention that colleges should provide both an adequate diagnostic and remedial program for deficient readers and such developmental instruction in reading for all as will insure a growing intellectual grasp of the various fields studied.

The method used most frequently in determining reading deficiencies at the college level is to check reading achievements by testing. In a survey made at Miami University, for example, Guiler found that 55 per cent of a group of 437 college Freshmen

> "were below the standard for high-school Seniors when measured by the Shank reading test; . . . and one-fifth were unable to read as well as the average pupil in the last year of the junior high school."[1]

It is obvious that this college group was seriously deficient in reading habits.

Using separate tests of rate, comprehension, and meaning vocabulary, Booker secured evidence of striking differences in the reading achievement of 664 Freshmen at the University of Chicago. One student, for example, read more slowly than two words per second whereas other students read more than seven words

[1]Guiler, W. S. "Background Deficiencies," JOURNAL OF HIGHER EDUCATION, III (October, 1932), p. 369.

per second. These records indicate that some students could read 18,000 more words per hour than other students. Allowing 400 words to the page, the most rapid readers could read 45 pages more per hour than the slowest. If the comprehension of the former was as good as that of the latter, their advantage was certainly great.

An examination of the comprehension scores showed that they varied from 20 to 66. In other words, the best reader responded correctly to more than three times as many test items as did the most superficial reader. Since the better readers, as a rule, were also among the most rapid, their advantage was tremendous. One explanation for poor comprehension scores lies in a meager meaning vocabulary. Three of the students tested made vocabulary scores lower than 10, while more than twenty made scores higher than 45. The former group attached no meanings or incorrect meanings to about four-fifths of the words in the test. As pointed out by Booker, they knew the meanings of only relatively few of the words included in the vocabulary of the "intelligent reader."[2]

A third type of evidence was secured by Pressey who gave tests at Ohio State University to find out how well students could read and interpret the different kinds of material usually assigned in their courses. As a preliminary step, she read all the textbooks used by the Freshmen and identified the various major types of reading required. A test was then developed including the various kinds that would be required by the average Freshman. From this test, six measures of reading efficiency were obtained:

> . . . speed of reading typical paragraphs, comprehension of textual matter of various kinds, comprehension of common types of diagrams, comprehension of problems (not the working out of the problem), comprehension of formulas, that is, the reading of their meaning, and comprehension of directions.

When the test was given to about a thousand Freshmen, the scores ranged from 7 to 57, out of a possible score of 60, with a medial score of 30. When the 350 who ranked lowest in the test were later studied individually, it was found that not more than 10 per cent of them were able to read paragraphs taken from seventh- and eighth-grade materials well enough to "locate the main idea." Such findings indicate that college students not only differ widely in reading achievement, but that many of them have surprisingly immature and deficient reading habits.[3]

The foregoing statement is further supported by facts secured from photographic records of eye-movements. For example, Booker found pronounced individual variations in the reading habits of his subjects: "The average number of fixations per line ranged from 4.4 to 14.8; regressive movements, from .1 to 5.4; and duration of fixations, from 6.0 to 10.0 twenty-fifths of a second."[4] Even wider differences were revealed

[2]Booker, Ivan A. "The Measurement and Improvement of Silent Reading among College Freshmen." 1934. A Doctor's dissertation on file in the library of the University of Chicago.

[3]Pressey, Luella Cole. "College Students and Reading," JOURNAL OF HIGHER EDUCATION, II (January, 1931), pp. 30–34.

[4]Booker, *op. cit.*, p. 137.

by records from more than two hundred students in three institutions secured by the writer during the current academic year through the use of the ophthalmograph, a portable instrument for photographing eye-movements. These records also showed that many college students are less mature in respect to fundamental habits of recognition than the average eighth-grade pupil. Even more significant is the fact that many students of average ability show clear evidence of a surprising amount of immaturity in habits of recognition. Such findings reinforce the conviction that colleges should make intensive studies of the reading achievements and needs of their students and provide appropriate corrective and remedial training for those who are deficient. They also support the recommendation that guidance in reading and study habits should be provided for many who are not potential failures. In fact, experiments show that the greatest improvement is usually made by those of average ability when appropriate guidance is provided.

ATTENTION will be directed next to five factors or groups of factors that are closely related to poor achievement in reading at the college level. Analyses of the records of those who are most deficient in reading show that they also rank low, as a rule, in mental ability, or capacity to learn. Unfortunately, the group intelligence tests that have usually been used in diagnosing such cases involved reading. In such cases, the validity of the ranks assigned to intelligence may be questioned. On the other hand, clinical studies which have been made supply convincing evidence that limited mental ability is characteristic of college students whose percentile ranking on reading tests is fifteen or below. A large majority of them not only rank low on intelligence tests, but they make slow progress, as a rule, in response to remedial training. The fact that there are notable exceptions indicates either that other significant factors are involved or that students vary widely in respect to those components of mental ability which are most closely related to reading achievement. Undoubtedly, both assumptions are valid in many cases. Certainly, we are seriously in need of intensive studies of the relative significance to reading of various mental abilities and of more discriminating tests of capacity to learn.

A second cause of reading disability is a limited meaning vocabulary. With but few exceptions, college students who score low on comprehension tests rank low also in meaning vocabulary. The chief difficulty does not lie in the fact that they cannot recognize and pronounce words accurately; it is due rather to the fact that they often associate few or no relevant meanings with the key words of the passages read. Unless the sight of a word arouses clear, vivid, and appropriate meaning associations while in the act of reading, it is obvious that comprehension will be inadequate. Experiments reported by various writers show that a definite increase in word knowledge is usually accompanied by a corresponding improve-

ment in silent-reading achievement. This is especially true in the case of students whose rank in comprehension is lower than their rank in intelligence.

A third cause of poor achievement in reading on the part of many students is inappropriate attitudes and ineffective habits of thinking while reading. Of primary importance is the fact that one should approach reading with a purpose and with an inquiring attitude of mind. Furthermore, a high degree of mental activity should accompany the reading act. For example, the reader should relate the various elements of meaning that comprise units of thought, he should grasp the author's arrangement of ideas and should relate them to personal experiences and problems, he should supplement the author's meaning from his own stock of ideas, he should raise questions concerning the facts included, he should judge the relative significance of the ideas presented and should critically evaluate them, and he should make use of the facts learned in the solution of problems or in the discovery of new interests. Furthermore, the mental steps or procedures used should vary with the purpose of reading. As shown by Ryder, there are notable differences between good and poor students in respect to such reading and study habits. He secured in a controlled experiment convincing evidence of the value of acquainting students with the nature of their weaknesses and with constructive suggestions for improvement.

A fourth cause of reading deficiency, particularly in respect to rate, is the persistence of immature and ineffective habits that frequently characterize the reading of children. For example, many college students are virtually word readers and have never acquired what Morrison has aptly called "the reading adaptation." Their span of recognition is narrow, their mental response to stimuli from the printed page is slow, and they persist in such immature habits as moving the lips or pointing with the fingers. Experience teaches that if such habits have become definitely established through long use, it is often difficult to modify them. On the other hand, the students of this group who rank relatively high in intelligence often make phenomenal progress as soon as they recognize the nature of their deficiency and receive appropriate guidance.

A fifth cause of unsatisfactory achievement in reading relates to visual defects of one type or another. The large percentage of college students who wear glasses supplies striking evidence of the reality of visual difficulties. During the last five years, both ophthalmologists and reading specialists have become increasingly concerned with problems in this field. As a result, facts have been discovered which indicate that the reading achievement of good, as well as of poor, readers may in many cases be improved through the use of properly adjusted lenses or through controlled practice which overcomes such difficulties as those resulting from poor habits of accommodation and co-ordination. To cite but one case, clinical examinations and diagnoses made at Harvard, Columbia,

and Chicago revealed the following visual defects among others on the part of a highly intelligent student who was quite unable to cover the assigned readings because of extreme slowness in rate of reading: over-convergence of the right eye, lack of lateral control in the movements of the left eye, a significant difference in the visual acuity of the two eyes, unequal refractive errors of the two eyes, marked differences in the amplitude of accommodation of the two eyes, and a limited area of retinal sensitivity in the left eye. New lenses were secured to eliminate or relieve certain conditions. The student is now receiving training in prism reading in which use is made of a metronoscope which makes possible the presentation of material at any rate desired. These exercises are designed to condition co-ordination of accommodation and convergence at the same time that better control of the lateral eye-sweep is acquired. The results secured thus far are very promising.

Reference has been made in the foregoing discussion to only a few of the factors and conditions which are associated with poor reading habits among college students. The list is sufficiently extended, however, to supply clear evidence that many of them encounter genuine handicaps that could be removed if steps were taken to identify and correct them. Various institutions have recognized their opportunity and responsibility in this connection and have adopted more or less limited diagnostic and remedial programs in attacking the problem. Brief reference will be made to the work which is now in progress at one institution by way of illustrating possibilities in this field.

AT THE beginning of the current academic year, Central State Teachers College, at Mount Pleasant, Michigan, introduced diagnostic and remedial work as an essential phase of the reorganized curriculum which is being experimentally developed there. As a means of identifying poor readers and of diagnosing their difficulties, psychological, reading, and vocabulary tests were included in the battery given during freshman week. Use was made also of the ophthalmograph and the telebinocular in securing eye-movement records and evidence of visual defects. The analysis of the test records and of the personal data obtained, including the preparation of individual profiles, supplied striking evidence of reading deficiencies. In some cases, the students were weak in all phases of reading; in other cases, they were especially deficient in particular phases, such as power of comprehension and interpretation, meaning vocabulary, rate of reading, and habits of recognition.

Remedial work for an experimental group of about 35 students is provided during regular periods each week by an instructor who made preliminary preparation last summer for giving such instruction. Three types of activities have been organized which will extend throughout the year. The first includes individual conferences on specific defects. The purpose is to provide students with more detailed reports on their deficiencies than were possible at the

time the scores on the tests and other items of information were tabulated. The interviews also provide opportunity to secure a clearer understanding of the students' difficulties, to suggest appropriate remedial steps, and to encourage the students to attack their problems vigorously. The second type of activity includes a series of group conferences concerning reading and study habits. In this connection, use is being made of the Ryder Check Lists[5] which identify numerous desirable reading and study procedures. Through their use, attention is directed to the fact that there are significant differences between good and poor reading and study habits and stimulus is provided for self-criticism. An effort is made during group conference in which various staff members participate to supply students with such facts and judgments as will enable them to revise their habits intelligently. The third type of activity includes the preparation of periodic reading reports by the students which are used as a measure of their reading interests and habits and which trace changes in them during the first year of college work.

A second general phase of the remedial program includes specific guidance and practice in reading to overcome difficulties and to secure improvement in achievement. Different types of training are planned for the three terms of the academic year. During the autumn term, individual use was made of published manuals, such as *Experiments in Reading* by McCall, Cook, and Norvell, which provide exercises that promote growth in comprehension, speed, and related skills. During the winter term, those students who read slowly have been asked to engage regularly in the reading of simple material that is highly charged with interest in order to promote the development of fluent habits of recognition and the rapid grasp of meaning. During the spring term, group reading of selections of common interest followed by discussions of the reading problems involved will be provided as an aid in discovering and correcting difficulties in reading and interpreting various types of material. The fact is recognized that the mental processes involved in different kinds and purposes of reading differ significantly. Accordingly, vigorous effort will be made to acquaint students with appropriate differences in procedure and to provide opportunity for applying the facts learned under supervision.

The reading program which has been described is far broader in scope than has been provided in most institutions. It is based on a clear recognition of the fact that the average as well as the poor reader at the college level can greatly improve his reading efficiency. Those directing the curriculum reorganization at Mount Pleasant believe also that the ultimate program must include appropriate guidance of a developmental type in each subject or field taught. This includes the conscious building from time to time of a background for intelligent interpretation, the development of clear

[5]Ryder, Stephen P. "An Experimental Study of Potential Failures in College." 1934. A Doctor's dissertation on file in the library of the University of Chicago.

vivid meanings that attach to the essential vocabulary of a unit, the presentation of dominant motives that should guide the student in his reading, and the cultivation of those patterns of thinking in which pupils must engage while reading if they are to achieve the major objectives of study in particular fields.

As Judd and Buswell point out,

> the printed page is the source of a mass of impressions which the active mind of the good reader begins to organize and arrange with reference to some pattern which it has been trained to work out. If the mind is fitting together the impressions so as to bring into high relief grammatical relations or distinctions, the grouping of words and the distribution of emphasis will be according to one pattern. If the mind is intent on something wholly different from grammar, as for example, the experiences which the author is trying to picture, the whole mental and physical attitude of the reader will be very different.[6]

[6]Judd, Charles H. and Buswell, Guy T. *Silent Reading: a Study of the Various Types.* Chicago: University of Chicago Press, 1922, p. 4. (Supplementary Educational Monographs, No. 23)

Unfortunately, a surprisingly large percentage of college students use little or no discrimination in the mental attitudes which they adopt in their various reading activities. This deficiency, in my judgment, can be overcome only as each instructor consciously develops and stimulates students to employ appropriate habits of thinking while engaged in assigned reading activities. This is but another way of saying that one of the basic aims of all good teaching is to cultivate those modes of intelligent interpretation, critical evaluation, and application which characterize efficient study in particular fields.

May I emphasize once more the fact that colleges face both a challenging opportunity and an obligation to provide an adequate diagnostic and remedial program for deficient readers. Even more significant is the possibility of promoting greater breadth and depth of scholarship on the part of all students through appropriate reading guidance of a developmental type.

New State Policies

By JOHN H. McNEELY

The Different Ways in Which Legislatures Administer State Funds for Higher Education

THE financial administration of state universities, teachers' colleges, normal schools, and other types of institutions is undergoing a significant change as a result of the adoption of new policies by state legislatures in providing funds for their support. Just prior to the depression period, it was the general practice of state legislatures to allow the individual institutions fixed amounts of state funds for their use covering an annual or biennial period. These amounts were paid out of the state treasury directly to the governing boards or on their order. In the expenditure of the state funds, the governing boards with the assistance of the presidents of the institutions had more or less free rein in the administration of their fiscal affairs.

Within the recent past, however, many state legislatures have revised the methods of distributing state funds to the institutions as well as the other executive offices, departments, commissions, boards, and agencies of the state. Since financial administration is dependent upon control, the effect has been that the legislatures have deprived the governing boards of a considerable measure of administrative authority over the finances of the institutions and have virtually assumed this administrative responsibility themselves.

The purpose of this article is to show the present policies of the legislatures of the several states in supplying state funds for the support of their universities and colleges with special reference to the effect on their financial administration and management. Sources of the information are the most recent appropriation acts and other statutes enacted by the state legislatures appropriating funds for the support of their state universities and colleges.

The plans by which the states commonly finance their institutions may be classified as follows: by making appropriations to them for annual or biennial periods at the regular sessions of the state legislature, and by setting aside for a continuing period the annual proceeds from special taxes levied for their particular use.

By far the majority of the states employ the first plan of annual or biennial appropriations. There are twelve states where the second plan of setting aside the proceeds of special taxes is wholly or partially utilized.

These special taxes[1] consist principally of a millage levy on property or other levies of various types on franchises, inheritances, fertilizer, banking institutions, cigarettes and cigars, including excise license taxes. In employing the special taxes five states have arranged that the proceeds upon collection be turned over to the governing boards to be expended by them in defraying the cost of operating the institutions. These states include Colorado, Michigan,[2] Nevada, New Hampshire,[3] Oregon. The seven other states have adopted an arrangement by which the proceeds are placed in separate funds in the state treasury and are not available for expenditure by the governing boards of the institutions until actually appropriated by the legislature at its regular session. These states include Arizona, Illinois,[3] Delaware, Louisiana,[3] Maine, Montana, and Washington. While employing special taxes for the purpose of obtaining the necessary funds, the latter states in reality finance the institutions by appropriations since the proceeds of the special taxes may not be used by the governing boards until appropriated by the legislature. Of all the states, therefore, there are 41 where the plan of legislative appropriations for annual or biennial periods is in force.

UPON the manner in which the state legislatures make their appropriations is determined the extent to which the governing boards and the president enjoy freedom to administer their financial affairs. The most common method used in the past was to appropriate annual or biennial state funds for the maintenance of the institutions in a single lump sum.[4] Under this arrangement their financial administration was placed completely in the hands of the governing boards with full power to distribute the expenditures among the various functions and activities in such a way as to promote the best educational interests of the institutions.

Under new policies adopted by state legislatures, however, the tendency has developed to divide or subdivide the appropriations into detailed items, each designated for a specific purpose. At the same time the stipulation is made in the appropriation act that the sums contained in each separate item shall be expended only for the purposes appropriated except where permission is obtained from a legislative or executive agency to transfer the funds from one item to another in the event of a special emergency. The result is that the state legislature through this system of itemized appropriations directs in a marked degree the administration and management of the finances of the institutions leaving only a limited discretionary power in the hands of the governing boards or the presidents.

State legislatures vary in the extent to which they go in itemizing the

[1] Appropriations are made for an annual period in five states and for a quadrennial period in one state.

[2] Only the state university and the state agricultural college are financed by special taxes. The teachers' colleges and other institutions are financed by appropriations.

[3] This applies only to the state university. The other institutions are financed by appropriations.

[4] In making an appropriation for capital outlays, the legislature added another lump-sum item.

appropriations. The most extreme form is found where the appropriations are so detailed as to list the definite salaries to be paid the individual employees of the institutions. In such cases the appropriation act specifies the individual positions on the academic staffs together with the amount appropriated as an annual salary for each. Appropriations for operation and maintenance including other expenses of the institutions are frequently also subdivided into a large number of separate items such as heat, light, power, water, telephone, stationery, laboratory equipment, printing, and the like.

States where the legislatures follow this extremely detailed form in making their appropriations are Arkansas,[5] New York, and Texas. In Florida, the actual appropriations consist of several lump sums, but the legislature requires that the salaries paid the staff members must follow the list submitted and approved by the state budget commission. A somewhat analogous situation is found in Tennessee where the state legislature makes appropriation of state funds in several lump sums but stipulates that the amount of salary of each state employee paid out of the appropriations must receive the prior approval of the governor. This applies to all state institutions with the exception of the state university.

The effect of such a detailed itemization of the appropriations is the virtual transfer of an important phase of the financial administration of the institutions from the governing boards to the legislature or the governor. One of the fundamental principles upon which the financial administration of an organization depends is the right to fix and adjust the salaries of the employees. Where the legislatures go so far as to list each position on the staff and to appropriate the amount of salary to be paid, it is impossible for the governing boards of the institutions either to promote faculty members or to add new members to the staff except in the case of vacancies. The president of a state college located in one of these states described the situation in his particular institution in the following words:

> Should another institution outside the state offer to one of our highly trained and efficient teachers or research workers or scientists a position at a high salary, there is no legal way for the president or the governing board of the college to reward the services of the individual by recognizing his worth to the institution in any way whatever. If he stays, he stays through sheer loyalty and devotion and the possible hope of recognition and reward at some time in the future.

NEXT to this extreme form of itemization are cases where the state legislature divides the appropriations into items fixing the salaries of the president and a few principal officers rather than the entire staff or into items fixing the annual expense of the president's office and that of other administrative and academic officers. A typical example is the division of appropriations made to the State College in Connecticut. The appropriations contain separate items for the president's office, director of resident instruction, business office,

[5] Operation and maintenance are a single item.

registrar's office, dean of men, and dean of women. The thirty-five academic departments making up the College are then listed and separate appropriations for each department are divided into three subitems, personal service, contractual service, and supplies and equipment.

In the appropriations for the teachers' colleges and normal schools of Maryland, the annual salaries to be paid the principal, assistant principal, registrar-business manager, senior clerk, business clerk, senior stenographers, and heads of departments are segregated into separate items while the salaries of the teachers are grouped under a single item which specifies the number to be employed. Although often making the appropriations for general expenses of the institutions in lump sums the legislatures in a number of states are quite prone to make a separate item of the president's salary. Altogether, in about 8 per cent of the states the legislatures fix the salary of the president of all the institutions in their appropriation acts, while in another 8 per cent the salaries of the presidents of only the teachers' colleges are so specified.

ALTHOUGH not as extreme in some of its aspects another form of itemizing the appropriations is where the state legislature provides a general lump sum covering salaries and wages of the staff members and other employees, but appropriates for other functions or services of the institutions in more or less great detail. Such states are Delaware, Missouri, North Dakota, and Ohio. For the University of Missouri the appropriation is divided and subdivided into approximately 40 items. In the case of Ohio, separate items making up the appropriations range from 32 to 78 in number for each of the state's six institutions. The legislatures in several of these states are inclined to itemize the appropriation to each state university in greater detail than those to the teachers' colleges or other types of institutions.

Other states have adopted a policy by which the legislature continues to make appropriations in a single or a few lump sums but prohibits their expenditure except in accordance with the detailed estimates contained in the state budget upon which the appropriation act is based. By this device the same object is accomplished as if the appropriations had actually been made in detailed items. The legislatures of Alabama, North Carolina, West Virginia, and Wyoming follow this practice with slight variations.

As an outgrowth of the recent financial stringency when the states were constantly threatened with deficits because of their inability to collect sufficient revenues to meet their expenses, the legislatures of 24 states have resorted to another plan that has the indirect effect of restricting the expenditure of state funds appropriated to the institutions to a number of detailed items. Under this plan the appropriations of the legislature are made conditional or contingent. Before being permitted to expend the appropriations, the institutions are required to submit in advance, work programs or esti-

mates of proposed expenditures for quarterly, semi-annual, or annual periods to the governor or some other central executive fiscal agency.

In a considerable number of states, the legislature provides that these work programs or estimates of proposed expenditures shall be itemized in such detail as the governor or central fiscal agency may prescribe. Dependent upon the available revenues in the state treasury the work program or estimates may be modified, decreased, or approved by the governor or central fiscal agency. The result is that although the appropriations are actually made to the institutions in the form of one or two lump sums by the legislature, they may later be reduced in the work programs or estimates to a large number of detailed items, which the governing boards and president must follow in their expenditure.

In the states where the legislatures still follow more or less the former method of providing state funds for the institutions, the appropriations vary from a single lump sum to four items. In the case of a single lump sum, the amount appropriated is for the purpose of defraying the entire running expenses of the institution, leaving to the governing board and the president the responsibility of distributing the expenditures among the various institutional activities as they deem best. In most cases, legislatures dividing the appropriations into four items segregate them on a basis of salaries and wages, operation and maintenance, equipment, and capital outlays. Frequently the legislatures make separate appropriations for special research projects or scientific investigations to be conducted by the agricultural experiment station while the main sum for support is continued in a single item.

In summary, it is evident from the information presented in this article that new policies adopted by state legislatures with respect to dividing and subdividing appropriations into detailed items are having a pronounced effect in lessening the freedom of action of the governing boards and presidents of the institutions in administering their financial affairs. The greater the length that the legislatures go in the itemization of the appropriations, the less administrative discretion remains with the governing boards and the president. A possible consequence of this movement is that it may lead to an impairment of the educational programs of the institutions.

Quarter versus Term Classes

By PAUL E. SCHAEFER

Study of the Records of Two Similar Classes in Introductory Zoölogy

THERE is no doubt the modern mania for "speed" is making itself felt in education as well as in other phases of life. College courses formerly covered in an eighteen-weeks semester have been crowded into a twelve-weeks quarter, and now there is a demand that the same amount of work be covered in a six-weeks term. Strange though it may seem it is largely teachers who are demanding the six-weeks courses. Naturally then the question arises, Can the same objectives of teaching be reached as efficiently and taught as effectively in six weeks of five two-hour periods each as in twelve weeks of five one-hour periods each? In view of the modern principle that shorter periods of study repeated at more frequent intervals are more effective in learning than the old uninterrupted "grind," it would seem that two-hour periods would tend to lessen the efficiency of teaching due to the crowding of the students' study time. It is obvious that if the same amount of work is to be covered by the term class as by the quarter class the daily assignments must be longer in the short course.

In order that an investigation of this problem might be made, an experimental arrangement was devised in the Summer Quarter of 1934. Two classes in introductory zoölogy were scheduled under the same instructor; one to meet one hour per day throughout the quarter (twelve weeks), the other to meet two hours per day for the first term only (six weeks). The same objectives were formulated for both classes; the same material was to be covered, in so far as possible, in the same manner; and the same tests for the objectives were used.

The procedure in introductory zoölogy at Ohio State differs from the traditional method; there is no separation of work into lecture periods and laboratory periods. The students normally meet for one hour in a special laboratory with animals or other demonstration material before them. The instruction is conducted through observation, discussion, and quiz. The function of the instructor is not to lecture, but through questions, suggestions, and summaries to direct the course of the observations and discussions. The students are led to observe data, draw conclusions, and derive certain general principles concerning animal life which may be applied to other situations inside or outside the classroom.

With such a teaching program as the foregoing, it was practically impossible to cover the material in exactly the same manner in the two experimental classes. Nevertheless, a very definite effort was made to keep the instruction of the two groups uniform. Each period was carefully planned. The objectives were set up, the principles to be derived by the students were formulated, essential terms were listed, and the direction which the discussion was expected to follow was mapped. At the close of each period a question was presented intended to provoke thought on the problem to be considered the ensuing day. It was hoped by means of these leading questions to achieve a better integration of the subject-matter. No definite textbook was used, but each week a mimeographed list of suggested references on the problems to be considered was given to the students. This was done in the hope of encouraging individual research on the subject under consideration.

THROUGH the co-operation of the Bureau of Educational Research a testing program was planned which included the measurement of four major objectives: the recognition of terms, the acquisition of factual material, the application of principles, and the interpretation of experimental data. The program included four testing periods. A pre-test was given covering the work of the entire quarter in order to establish a basis for gain. This pre-test was also used as the final examination. Midway in the course an examination was given covering the work up to that time. Late in the course the students were given a practical examination, which included actual examination of materials used in laboratory observations.

In registering for the course no restrictions were placed on the students. Any student could register for Zoölogy 401 in either the term course or the quarter course. It was hoped in this manner to get a representative group in each class. Most of the teachers enrolling for the course selected the term class. This fact may have introduced a variable which could not be controlled. The total enrollment for the quarter class was twenty-two, most of whom were regular college students ranking as Freshmen or Sophomores The total enrollment for the term class was thirty-eight, of which number approximately half were regular college students comparable to the quarter group, while the others were mostly advanced students and teachers in biological sciences. All students entering the University are required to take the Ohio State Psychological Test. The test scores of the two classes showed a slight variation, the mean score of the term class being approximately four points higher than the mean score of the quarter class.

To the instructor throughout the course, on the basis of class discussions, the term group seemed to be better than the quarter group. An analysis of the test results, using actual gain during the course as the basis for calculation, gave a slight though not significant advantage to the quarter class. However, there

were some interesting points of difference between the two groups on the different examinations. On the test given midway of the period the mean score of the quarter class was approximately five points higher than that of the term class. On the practical examination the mean score of the quarter class again was approximately five points higher than that of the term class. On the final examination the mean score of the quarter class was approximately three points lower than that of the term class. A consideration of the mean gains on the various parts of the final examination shows the term class slightly ahead in the amount of factual material acquired whereas the quarter group gained more in recognition of terms and the application of principles. The two groups made approximately the same gain in the interpretation of experimental data.

WITH such small groups and the number of variables uncontrolled, one must hesitate to draw definite conclusions. The data actually indicate a slight advantage in favor of the quarter class, namely, the group which met one hour per day throughout the entire quarter, though the difference is not sufficiently great to be statistically significant. It is interesting to note here that the percentage of students in each class receiving a final mark of *C* or above was approximately the same.

It might be concluded from the foregoing data that a student might just as well conserve his actual time by taking courses on the term basis, that is, go to class two hours per day for only six weeks. In conclusions drawn from these data, however, the fact that the term group was almost twice as large as the quarter group, which in itself cut down the amount of actual participation of individual students in the discussions of that class and reduced the amount of individual attention which the instructor could give each student in the observation of laboratory materials. It should also be remembered that the term class contained a larger number of older individuals who possibly were better prepared, that is, had a greater factual background and had acquired more effective study habits. A relatively large number of teachers of biological sciences in the term class may have injected another uncontrolled variable. On the basis of the foregoing considerations one may well raise the question, Had the members of the term class been enrolled in a regular class of quarter length would the record of the group have exceeded the record they actually made in the term class? Although the data show but slight variation between the two groups, in the opinion of the instructor, the students in the class meeting two hours per day during a period of six weeks, were at a disadvantage as compared to those meeting but one hour per day during a period of twelve weeks.

Reorganized Residence Halls

By MARY ASHBY CHEEK

Is the Liberal-Arts College Developing a Closer Relationship between the Academic and the Non-Academic?

THE educational world views the liberal-arts college in somewhat the same fashion as the proverbial husband who could neither live with his temperamental wife nor yet live without her. Clearly, there have been failures, inconsistencies, and shortcomings. It is increasingly recognized, however, that the ideal of a liberal education, to enrich the life of the individual and to prepare him through intellectual discipline for able and effective group living, meets an insistent demand of the present day which will find expression through other channels should the liberal-arts college in its present form fall short of the standard it has set for itself. The quarrel, then, is not with the fundamental idea back of a liberal education, but with the incomplete fashion in which it has been realized.

Traditionally, one characteristic of the American liberal-arts college has been the growth among its students of an aura of group activities and characteristic ways of living, popularly known as college life. Officially inspired and sponsored in some instances, growing like Topsy in others, extra-curricular activities under independent student leadership occupied in the not too distant past, in the opinion of many persons, too large a proportion of the time of certain groups of students and tended to become ends in themselves rather than means to an end. The provisions for residential life, though often adequate from the standpoint of efficient management and even of the cultivation of gracious living, had little conscious connection with the intellectual life and interests of the institution.

But there is no doubt that the twenties and early thirties have witnessed a dignifying of extra-curricular activities in these institutions and the elevation of housing systems in some instances to an important place in the educational scheme. During this period some group activities were sloughed off or diminished in importance, partly because they lacked fresh appeal due to the fact that the rapidly growing high schools were developing extra-curricular programs of their own, and partly because the individualism and would-be social sophistication of the prosperous twenties led students to desire to be men and women of the world and therefore to look with condescension upon things "collegiate." Proficiency in individual sports and

other activities which could be carried into later life was one of the interesting developments. More fundamentally, an earlier maturing process was induced by the cumulative effects of an era of social change and by the sobering experience of the depression.

These factors, together with the increased concern of the liberal-arts colleges themselves for the more careful selection of students and for the maintenance and raising of academic standards, produced, especially toward the end of the period, a group of students of wider interests, better training, and keener intellectual appetite. They found grappling with international affairs and problems of the social order through their own organizations, as well as in the classroom, better fun than class rushes and freshman hazing. Student government began to take on the positive function of training for citizenship instead of satisfying itself with the older negative responsibility for the enforcement of regulations. Increasing numbers of intercollegiate gatherings of men and women students for the discussion of students' interests and problems and for the formulation of programs of action on and off the campus have brought the development of a genuine student movement several degrees nearer realization.

ABLER student leadership resulted; in fact, the correlation became noticeably higher between success in academic work and leadership in college activities than was formerly the case. It is important to note in this connection that the overloading of a few students with multifarious offices has been prevented in many institutions by the establishment of census systems which evaluate student offices in terms of points, putting an upper limit on the number of points which any student may hold—the upper limit being reduced in the case of weak students. Thus a more healthy balance between curricular and extracurricular interests is established for the groups of students who otherwise would have undue demands made on their time by outside activities. At the same time an opportunity is provided for a larger number of students to participate in these activities. So a closer approach is made to the goal of providing all students with the practical means of cultivating or developing that "social interest" (the ability to co-operate and work with one's fellows), which one of the most eminent psychologists terms possibly the one most important element in happy and successful living.

While quite properly jealous of the tradition of student control, it is interesting to observe in this generation of students, noted for their independence and initiative, an increasing tendency in both local and intercollegiate student organizations to seek mature counsel. Members of the faculty whose professional work most closely associates them with the interests of the student group concerned are usually chosen, as are student officers, to serve for a specified length of time, and it is expected that they will never assume a more important rôle than that of *primus inter pares*. In addition to constituting a welcome breaking down of barriers between students and

members of the faculty, it is an indication of an increased sense of the importance of the task in hand.

This dignifying of the extra-curricular life of the campus, together with the renaissance of department clubs in which all members of the faculty in certain general departmental fields of interest meet informally outside the classroom with students studying in the same field, indicates an increasing tendency toward the blurring of sharp lines of distinction between the curricular and non-curricular interests of students. If continued or consciously directed, this may well lead in the future to their virtual identification as two facets of the same stone, a relationship which has been so planned in certain recently established institutions.

In addition, the interest in creative activities prevalent in the outside world has invaded the colleges. Within well-defined limitations of time and effort expended on such projects, this would seem to offer to many individuals an outlet which would enrich life and broaden interests both in college and in later life and which might well supplement or be preferred to organizational activities. Brown University has established a well-equipped hobby room under student supervision for those interested in sketching, modelling, photography, and other interests according to this JOURNAL.[1] Students at Columbia have planned their third annual hobby exhibition. Again it is interesting to note that some institutions—more particularly the women's colleges—offer work in drawing and modelling from classical designs, the modern dance, the production of plays, and other lines of creative activity in the regular curriculum. Hence, again the lines of the academic and the non-academic seem to be converging toward a common end.

[1]The Reporter, VII (January, 1936), p. 50.

THE residential life of students has gone through somewhat the same form of evolution as that just noted in extra-curricular activities. From the first the women's colleges provided adequate and attractive living quarters for their students and stressed the importance which they attached to the community life thus made possible. Mary Lyon said in 1832, five years before Mount Holyoke opened as a seminary, that

> the plan which has been proposed for the buildings is suited . . . to give to the young ladies superior privileges, both for retirement and social intercourse, and in an eminent degree to promote health, comfort, and domestic happiness, and intellectual, moral, and religious improvement.[2]

Members of the faculty and students lived under the same roof. Contact between them constituted part of daily living. Emily Dickinson wrote in 1847 that

> things seem much more like home than I anticipated and the teachers are all very kind and affectionate to us. They call on us frequently and urge us to return their calls, and when we do, we always receive a cordial welcome from them.[3]

[2]Hitchcock, Edward. *The Power of Christian Benevolence Illustrated in the Life of Mary Lyon.* Northampton, 1851. p. 165.

[3]From a copy of a letter from Emily Dickinson to Miss Abiah P. Root, November 6, 1847, in the Mount Holyoke College archives.

The founding of Vassar in 1865, and of Wellesley and Smith in 1875, all of which stressed the importance of the residential life of their students, firmly established this trend in the education of women. The report on the organization of Vassar Female College (1863) in speaking of the importance of the "Domestic Arrangements of the College" calls attention to the fact that here

> we enter on a field entirely unoccupied by Colleges for young men [where the college makes provision for] parental care, . . . family comforts, . . . correct habits, . . . cultivation of propriety in feeling, speech and manner, as are indispensable in the training of young ladies. These things belong, chiefly, to the education which is obtained apart from the School-room. They are not less important than the education there given.[4]

Thus, in the early days of the higher education of women, the relationship between intellectual and social life was close, though the two remained in almost distinct compartments—the one for the cultivation of the intellect, the other for that of health, character, and the social amenities. The strong connecting link was the close relationship established in the residence halls, as in the classroom, between members of the faculty and students—a link which became less evident when in time members of the faculty withdrew in large numbers from campus life.

In the last few years some institutions, influenced by ideas inherent in English education, have made a conscious effort to bring about the real integration of these two phases of residential college life. Two universities for men, Harvard and Yale, have taken the lead by the establishment of their new housing systems. Patently the tutorial system around which the residential plan at Harvard is built, though a goal toward which many colleges might wish to aspire, is out of their present financial grasp. But it is quite possible for many American colleges, without radical change in their organization and at little or no extra expense, to work out a housing system for the integration of intellectual and social life which may be suited to the particular needs of their own campuses.

In the opinion of this writer, the scheme requires certain essentials. First, there must be an existing residential plan, not necessarily expensively appointed, but adequate as a material background for dignified and gracious living such as is possessed by many institutions in the country. Second, a program must be devised for bringing groups of members of the faculty, visiting lecturers, and interesting persons from outside the academic pale into the houses regularly, and providing occasions for them informally to meet with students. Third, the resident head of the house, regardless of age, should be a person of intellectual interests and attainments as well as one who possesses a fine social sense, a sincere interest in individual students, and those qualities of character necessary in commanding respect. Such paragons do exist, though not in large numbers. A fourth essential is the establishment of house libraries stocked with good books selected

[4] Vassar College. *Vassar Female College: Report on Organization.* [m. p., 1863] p. 28.

chiefly for the pleasure and stimulus they will give. They should possess, in addition, a core of reference books which can be used as tools. A generous supply of magazines would be, of course, an added asset.

IT WOULD be impossible to enumerate the ways in which various institutions are undertaking to cover one or more of these points. Smith College has undertaken to bring members of the faculty freely into the houses as guests of individual students. Smith, Amherst, Connecticut College, and others have well-established house libraries. Bryn Mawr and Radcliffe have for years used only college women to head their houses—usually persons who are working for higher degrees.

During the present academic year Mount Holyoke has initiated a new housing system in seven upper-class houses, in each of which a non-resident member of the faculty acts as house dean, coming in regularly two or three times a week for dinner, house teas, or other house functions. The house dean is the titular head and is considered to be the ultimate authority in all matters pertaining to the house. Two heads of departments, another professor, an associate professor, an assistant professor, an instructor, and the dean of residence have served in these posts, the last two but one being young married men whose wives have shared their appointments and responsibilities.

Associated with the house dean in each house is a group of members of the faculty, alumnae, trustees, and outside friends known as honorary fellows. The faculty group comes about once a week, usually on a guest night, though they are made to feel free to come for any meal or at tea whenever it is convenient for them. The others, of course, appear less frequently. Whether coming singly or as a group, they are the guests of the whole house, and different students act as hostesses on each occasion. Thus is restored something of the old intimate daily contact between faculty and students characteristic of earlier days, though undoubtedly they meet today on more informal terms.

The guest nights may be purely social gatherings ending over the coffee cups. If so, here is an excellent opportunity to cultivate that almost lost art of conversation over a leisurely dinner or by the open fire. Whenever practicable, members of this group, visiting college guests, or lecturers may be persuaded to talk for ten minutes or so after dinner, and thus start the ball rolling for a general discussion about some field of interest. The contacts in these gatherings differ from those in department clubs because they assemble groups having diverse rather than similar interests. Is it too much to hope that these contacts and the play of mind on mind should not only be stimulating but eventually prove, as ex-President Lowell has pointed out, to be a real aid in fostering that general education which is the goal of the liberal-arts college?

Resident fellows assume the major part of the responsibility for each house and collaborate with the house dean and student officials in planning for the group life. In order to attract

actively minded persons possessing ability as well as the other qualities already noted, the appointment has carried with it the right to do graduate work for one third of one's time. The resident fellows collaborate with the college physicians in furthering the health program of the college and with those having to do with student counseling in this field as well. As a group they work on joint college projects, such as the development of house libraries or of students' interests in hobbies, and it is hoped that they may also engage in group study of professional value.

In surveying some of the housing developments, one reflects with interest upon the fact that in the academic world changes in teaching method are emphasizing the importance of individual or small informal group conferences in which discussion may frequently replace the more formal classroom lecture. Also, it may be noted that reconstructed curriculums in liberal-arts colleges are seeking to provide for general education partly by the eradication of the hard and fast lines of distinction between the old established academic subjects and by providing fewer fixed academic appointments and more time for reflective reading.

If specific housing experiments, such as those here indicated, may be said to indicate an educational trend, as there is some reason to think that they do, one may venture to predict that in this area, as well as in the field of the organizational life of our educational institutions, there may be a much closer relationship developed in the future between the academic and the non-academic than has been true in the past.

Education through the Fine Arts

By WILLIAM SENER RUSK

A Summary of the Literature of Recent Aesthetic Pedagogy

EDUCATION in the fine arts is like the stream of Heraclitus—it is constantly changing, partly in adjustment to new social conditions, partly in adaptation to developments in correlated fields, partly in evolvement from its own rational and emotional preconceptions. This continuous change is not only reassuringly indicative of life, but it provides an interest to the teacher which may well become enthusiasm in the student. In the present survey no arbitrary classification of methods will be attempted, though the programs considered will reveal common aims in some cases, evolutions from previous standpoints in other cases, and once or twice perhaps a new idea will be discovered. The only thread of consistency to be found will be that of change, now in form, now in substance.

What, then, was the set-up a few years back when the mature teacher of the present was among the taught? Three points of view were in the news. There was Jay Hambidge with his *Dynamic Symmetry*,[1] which was believed to be a rediscovery of geometrical principles used by the Egyptians and developed by the Greeks in both architectural and plastic forms. In contrast to the static symmetry of the crystal, dynamic symmetry was said to follow the vital forms of nature. In the later centuries artists had unconsciously followed the former. They might now free themselves and adopt the freedom of classic design. Areas derived by complicated geometric formulations and based on various root triangles were combined into organizations of space, within which the artist was free to arrange his design, assured of essentially correct relationships. Greek temples and vases were measured and used as data.

Various contemporary artists have employed the system with at least academic success. That the theory is still a potent one is evident when it is noted that Mrs. Hambidge as recently as 1932 was still providing practical applications, and that E. B. Edwards in the same year was proposing a modification of the theory in his *Dynamarhythmic Design*. While the theory aroused wide discussion, it has been criticized, on the one hand, as an artificial device which would hamper rather than aid creative expression, and, on the other hand, as

[1]The authors' names or book titles mentioned throughout this article are given in detail in the bibliography "Education through the Fine Arts," found on page 401 and following of this issue.

permitting such endless combinations of space that the proportions of any design might be shown to follow some organization or other of root triangles. Pattern-makers might be educated by means of it, but not artists, it was pointed out.

Then there was the Denman Ross discipline, based on wide knowledge and intelligent appreciation of works of art. It endeavored to classify colors and areas and forms so patently that the well-disposed student could not help but understand. Analysis was the means used, supplemented by laboratory exercises. Particularly useful for the teacher was the clarification of tone relations which might henceforth be discussed with relative certainty that the words used and the ideas intended correlated. Again, limitations of the Ross program have been pointed out. Connoisseurs might be educated by means of such a rationalized method, but not artists.

Of the leaders of art education of two decades ago Arthur W. Dow has come nearest perhaps to withstanding posthumous criticism. His exploration of "art structure" put the emphasis on plastic form as we use the term today, and his methodology was eminently teachable. His placement of *notan* in a position of significance among aesthetic elements was likewise of clarifying value. By way of parenthesis, an interesting bypath of the present discussion would follow the influence of Oriental art on the ideas of Ross and of Dow and later on those of Barnes. It has patently played a significant part in the maturing of American taste.

Among the psychologists Münsterberg at least considered the pedagogy of the arts. He cogently pointed out that science describes and explains, while art interprets; one is analytic, the other synthetic. He showed that, speaking aesthetically, *content*, though isolated from reality, is unified by meaning; while *form* is embodied in line, color, and light. Psychologically speaking, *content* is replete with associations in isolation; *form* with line, color, and light. Has the psychologist gone further today?

Art history was safely in the hands of those who had absorbed the dialect of Berenson where "tactile values" were the touchstone of authentic design, or of Kimball and Edgell, where function followed form in noteworthy architecture, or of Lorado Taft, who generously praised diverse manners in sculpture. Mather in his *History of Italian Painting* produced a masterpiece of the school.

The chief catalytic agent which, introduced into yesterday's pedagogy of the fine arts, led to the precipitation of today's was no doubt based on the ideas of the Barnes Foundation. Seeking a formula of appreciation which would include the "moderns" of the day and a rationale which would relate art to experience, they vigorously, and at times truculently, stormed the walls of academic conservatism. The burden of proof was as always on the rebels, and wars are never won save by fighting. That the Foundation has largely justified its claims is evident to anyone who reads the reviews of current publications in the field or who seeks a critique of modern painting ignorant of "plastic form." That art is now

appreciated in terms of a uniquely significant and unified experience is less easily proved. The point of view is accepted as an extremely fertile one in any case.

A comparable catalytic in architectural appreciation and creation might have been Sullivan, but his audience was a limited one. Only in our own day has the admiration for European post-war forms and for the functionalism of Sullivan's brilliant assistant, F. L. Wright, led to the reappreciation of Sullivan's work and ideas. Believing he was following nature, Sullivan urged that form should follow function, forgetting that in a sense neither form nor function has meaning without the correlation of the other, and that in another sense art, being artificial, is justified in reversing, perhaps even compelled to reverse, nature's order and to let function follow form. Moreover, to the modern mind the romantic tinge of much of Sullivan's criticism is unpalatable—is a skyscraper a "proud and soaring thing," or is it rather an uneconomical and anti-social structure of metal and concrete and glass? Sullivan at any rate put an end to the domination of "the styles," even if the modern "style" is still to seek.

Contemporary aesthetic pedagogy is largely derivative from the recent past, naturally enough. In the continuum of the Hambidge theory comes *Aesthetic Measure*, wherein a distinguished mathematician analyzes forms of design and measures in music, not, one gathers, as one who seeks a panacea for pedagogues, but as a scientist who, in Münsterberg's phraseology, delights in describing and in explaining. The Ross program is now modified by Pope, whose "tone solid" of colors, values, and intensities seems to have said the last word in logically explaining tone relations. His classification of the artists of the past according to their modes of expression, that is, of applying color to canvas, has at least the pragmatic value of teaching the layman how the artist did it. The clever student may now imitate with some assurance.

THE appreciation of art through its history and criticism is ably represented by new books and discussions which at times stick to academic patterns and at others show absorption of exhilarating ideas from other branches of modern thought. For example, Morey has produced a small volume which will doubtless cause the re-writing of histories of medieval art. He would include the fifteenth century, even in Italy, in the medieval frame, and his iconographical knowledge makes any dissent foolhardy. On the other hand, many critiques of European art and artists and American as well give evidence of the new cultural climate. The small volumes of the Renaissance Society of Chicago carry appreciation of "modern" European art into the post-modern forms of *surrealisme* and *die neue Sachlichkeit* and include a rediscovery (sic!) of Seurat. Benson has intelligently interpreted America's most creative watercolorist, John Marin, and the architect Richardson, forerunner of modernism, is now definitively presented. Perhaps most

significant of all is the new biography of Cézanne in which sufficient data have been accumulated to change a legend into a personality. In more general fields Miss Lafollette set a new standard for readability, for discussion of art as a phase of the culture which produced it, and for modern ideology in her *Art in America*, and Robb and Garrison have succeeded in their survey in finding room for suggestive technical and aesthetic comments as well as for examples of contemporary art forms. Art did not stop with the post-impressionists, if their point of view is followed, nor even with the "moderns."

The present status of the Barnes point of view is to be seen in the more recent publications, elsewhere cited, by Barnes and Dewey. The student notes perhaps a slight mellowing of tone in the analyses of Renoir and of Matisse by the former, less asperity and a more catholic appreciation of the place of the layman in the aesthetic experience. "Decorative form" is further distinguished from "plastic form," Renoir rather than Matisse expressing the latter and more complete interpretation of experience. An example of the still vital influence of this point of view is found in Cheney's new and perhaps most important volume of appreciation for the layman. With or without the aid of mysticism the observer is led to understand and perhaps experience the thrill of abstract relations in color, line, and space. The reader may be permitted a smile as he finds the later books by Barnes and Cheney adopting a tone to the newer-comers—the "regionalists" for example—a tone not dissimilar to the one the critics of yesterday used when the "modernists" appeared.

Perhaps the newest idea to be adequately interpreted in the field of aesthetic pedagogy is that of G. H. Opdyke. It is obviously dangerous to equate or even to analogize too closely appreciation of nature and of man-organized art forms. Yet the transition is a natural one for the student, it is understood by both artist and layman as a communicable idea, and if properly considered in terms of differentiae as well as of similarities provides a pedagogical tool of vast utility. The temptation is to allow students to use such a tool when dull from overuse or when it is ill-adapted to the task in hand.

THE last group of books illustrative of current practice to be mentioned are in the nature of symposia, for the teacher, actual or prospective, rather than for the student. First, there are the suggestive course syllabuses issued by the University of Chicago. Art 101 provides a historical introduction to art. "Blind spots" would seem to be revealed in failure to appreciate such a sculptural masterpiece as the sandstone head of Ikhnaton in the Staatliche Museum, Berlin; unwarranted conservatism in the derivation of Roman art forms solely from Greek sources; and understandable, but questionable, wisdom in the inclusion of oriental art in a brief survey, resulting in the conclusion of the survey with the Renaissance. Art 102, Practical Introduction to Art, attempts a conditioning of the student mind with

aesthetic discussion and then a series of laboratory experiments in the Ross-Pope manner, to insure his appreciation through duplicated effort. Perhaps this is a workable method. It is widely advocated. Art 103, Theoretical Introduction to Art, abounds in subjective criticism with all its delights and pitfalls. The spectator is given a front seat and suggestive thoughts are murmured in his presence. The *La Gioconda* meditation is an example of the more successful treatments; yet Breughel is not mentioned; and the language is often distracting, as when Pausanias is dubbed a "mystery fan."

A new annual appeared in 1935, *Art Education Today*, by which Teachers College proposes to honor the memory of Arthur Wesley Dow. Many of the contributors present old points of view with clarity and new points of view with cogency. Dean Russell aptly points out the scope of art in the leisured future and Professor Edman, in Dewey's footsteps, relates art to experience. The claims of the machine in the artist's ideology, the need of giving free play to the individuality of the student, the sociological claims of art, the mathematical connotations—all ring the changes on ideas already current. The educational possibility of the motion-picture is explored in a telling article by Elias Katz.

In *Methods of Teaching the Fine Arts* the attempt is made to cover the field of art education in terms of various age-levels and of various points of view, now historical, now technical, now psychological, and now freely expressive. Munro suggestively considers the ways in which appreciation of art may be helpful to adolescence. Mrs. Perkins tells of the use of motion pictures in training students in applied observation, Savage recounts the *bottega* methods favored at Yale, and Scott discusses the Harvard laboratory procedure. Morey argues for a reorganization of graduate work in the fine arts and Munro urges a psychological approach to college art instruction. Graham is still ideologically Parisian and Miss Weiss loyal to *Bauhaus* conceptions. The value of the volume perhaps is that it helps to clear the way for the consideration of art procedure of the future. Abstraction without connotation is dated, for example. Housing is replacing houses as the architect's problem. And the clever art teacher, having taken stock, will be the more open to the new idea.

IN SO far as future developments are already foreshadowed, they would seem to be weighted psychologically from the point of view of pedagogy, and sociologically from the point of view of art productions, those raw materials which the teacher uses to orient and to vitalize his program. Straws in the wind are found in Pearson's criticism of leading art critics among the journalists, who have such a determining influence on public opinion, and in the exhibitions and publications of the Museum of Modern Art and of the Whitney Museum of American Art, both in New York City. Pearson concludes his articles in this fashion: "The sum total of this investigation of art critics comes down to the uncovering

of this situation. Our art critics know all about art *without knowing the thing itself.*" The exhibitions of the Museum of Modern Art have indicated unmistakably that "modern" is a continually new term. From abstraction to neo-realism to regionalism they have kept a step ahead of the public awareness of current art forms. Perhaps the catalogue of the recent Van Gogh exhibition, composed of pertinent quotations from Van Gogh's letters is as brilliant an example as one could find of psychological-sociological documentation and interpretation. The Museum is also active in tracing the history of motion pictures and was a sponsor of the radio broadcasts of 1934 and 1935 which surveyed American art. In neither of these latter fields can the results be considered as more than experimentally successful. The historicity of a new art is not a vital approach save to the expert and broadcasts which assume immaturity on the part of the listener are not stimulating. The "Town Meeting of the Air," in which expert and laymen discuss economic matters would seem to suggest a preferable method for educational programs. In the American artists' monographs, as well as in the changing exhibitions, the Whitney Museum is also doing much to further the intelligent education of the public, including teachers.

The latest trend of painting can be gauged in the announced books by Grant Wood and Thomas H. Benton. Housing is oriented historically by Catharine Bauer and experimentally by Henry Wright. Whitaker's volume traces architectural history in terms of palace-hovel, that is, sociological evolutions. Norman Bel Geddes suggests the interior decoration of the 1940's, Adams tells how America may build its cities more beautifully and efficiently, and Rivera and Wolfe, in an age of mural painting and social ferment, raise the ever pertinent question of the relation of art to subject-matter, answering it by advocating patent propaganda.

In terms, then, of the art being produced expressive of the life being lived in our day, as its significance is codified in new pedagogical experiments, no agile-minded art teacher can be but excited by the changes visible in his world and in his profession.

Toward More Effective Participation

By DR SCOTT

What University Administration Can Learn from Business Management

UNIVERSITY administration needs to learn from business management that administration is not the exercise of authority running in one direction from those in control to those who are controlled, but is rather a co-operative process to which various individuals and groups make their different contributions. It needs to learn that administration on a large scale always involves two unlike processes. One of those processes is the execution of policies, their application in the direction of operations, and the other is a synthesis whereby a program of policies is drawn from the consideration of a large variety of pertinent factors. One of the processes runs from the general to the particular and the other from the particular to the general, and the point which university administration needs especially to learn is that the two processes cannot be effectively carried out through the same channels.

All administration goes back to the primitive military organization of "captains over tens and captains over hundreds," that is, to the simple process of building up a pyramid of control by the delegation of authority. Modern representative government superimposed an inverted second pyramid upon the original pyramid of authority. In business organization the second pyramid has risen from the president through the board of directors to the stockholders. This development in organization placed upon the head of the typical business organization the twofold task of managing, at the same time, operations of the company, on the one hand, and the board of directors and stockholders, on the other.

Governmental and educational executives have been confronted by situations which are essentially the same as that of business executives. In fact, the Janus-faced business executive, the two-faced politician, and the president of the large university are natural born triplets. The percentage of cases in which statesmanship has overcome the difficulties of the chief executive's position probably has been about the same in the three fields of business, government, and education. The business field is somewhat different from the other two in that business organization has developed more freely than that of either government or educa-

tion. Hence, the importance of studying the example which it affords.

When modern large-scale enterprise developed and became subdivided into various departments or operating divisions, its administrative head was cut off from direct contact with actual operations. One result of this change was the setting up of a central accounting department with authority over the financial records of all divisions of the enterprise. By this means the administrative head of the organization had an independent picture of the financial affairs of the business to supplement his contacts through the executive heads of its different operating divisions.

As the business unit has continued to grow in size and complexity, the effective co-ordination of its operations has come to require a more forward-looking administration. It has become necessary to plan operations more fully in advance and to set up policies to insure uniform and consistent treatments of many types of problems. Thus a policy type of management has become the rule among large business enterprises.

In this latter change, the work of the chief executive has been divided. The face of the chief executive which looked toward the board of directors and stockholders has been bestowed upon the chairman of the board who has become a policy executive of the company. The face which looked toward operations has been left with the president who has remained in charge of operations or the execution of policies.

The policy executive, typically, has been a man of broad, general experience with the business. It has been expected that his past experience and personal contacts and his judgment would furnish a basis for policy determination.

The abilities and personal experience of one man, however, do not afford a broad enough basis for policy determination. The position of the policy executive has not been created by the policy executive but has come about through the necessity for a forward-looking administration. To look forward effectively we must look backward intelligently. The immediate basis for accurate prediction lies in adequate past records. The influences which have created the policy executive are shaping also the positions of technical assistants who are controlled by the same general principles. These assistants are charged with the organization and interpretation of the records which serve as a means of policy determination.

When the central accounting department was set up, the controlling viewpoint of business records was shifted from the point of view of the operating department to that of the the chief executive. Now it is shifting again from the point of view of the president to that of the policy executive.

The basis of policy determination lies in internal operations and in external factors such as economic, legal, and social situations. The more the policy executive knows about his job and the better he organizes the work of his position, the narrower the latitude of his discretion becomes. This tendency toward a limitation of his discretion is not being shaped so

much by the policy executive himself as it is by the influences which have created his position. If the current trend toward professional training and practice in business means anything, it means the substitution of a co-operative and impersonal type of administration for a traditional domineering and personal type.

The conventional business-organization chart, with its conception of authority coming from above, is no longer applicable to the present system of control which has been developed for large business organizations. A better figure to express this newer system of control would be a circle. From internal operations and external situations are drawn records which are summarized and interpreted to the policy executive, thereby affording a basis of policy determination. The policy executive recommends policies to the board of directors. The board approves policies which control the management of the business. This control reaches down through the president and various grades of executives to the actual operations of the business and thus the circle of control is completed. The policy executive who pictures himself as carrying the whole load of administration rather than as one factor in a co-operative process is an anachronism.

IN THE management of the American university there are two fundamental, associated problems. One is the direction of the services rendered by the institution from the point of view of its financial support and routine control, and the other is the formulation of educational policies to guide its routine administration. The burden of the educational direction of the university cannot be placed upon the board of control, whose members come from outside the educational field, or in any exclusive sense upon the president, who, by his position, is cut off from direct contact with teaching and research.

Presumably the theory of the current organization is that a program of educational policies will be drawn from the faculties through the deans to the president and will be presented by him to the board. But these channels have been set up for the delegation of authority from above in accordance with traditional conceptions of administration. Do they serve effectively for the synthetic process of organizing an educational program? How high do faculty meetings rank in terms of vital educational administration? What is the general attitude of teaching faculties toward deans as such? Such questions are related directly to university organization. The humorous characterization of a dean as a man who does not know enough to be a professor but who knows too much to be a president is not a deliberate slur at those individuals who are deans and presidents. It strikes an academic audience as funny because of the element of truth in its caricature of the prevailing university organization. If evidence is required as to the weakness of the existing university organization, we need go no further than to cite the high mortality rate of college and university presidential terms.

On account of the nature of the

services rendered by the university, its administration needs to be even more co-operative than business administration. If we are going to have any effective educational direction, we must draw from the group of men and women who make up the faculties of educational institutions some effective expression of their experience, judgment, and thought upon problems of education. In the matter of university management we must make the faculty an asset rather than a liability.

How can such a result be achieved? It is here suggested that it can be achieved only by setting up other channels for the formulation of educational policies besides those from the faculty to the dean to the president and thence to the board. It is suggested that initiative in what may be called educational problems be placed specifically upon the faculties of the university. It is suggested that the faculties be asked to select their own chairmen who would preside at faculty meetings and be the leaders of the faculties in educational matters. Further, it is suggested that a chairman of the university faculty be selected by that body to preside over its deliberations and serve as the educational policy executive of the university. The chairmen of the different faculties with the chairman of the university faculty would provide a clearing house for the ideas of faculties and faculty members on matters of institutional administration and educational policy.

The purpose of this suggested change in university organization is to obtain a more effective participation by the faculty in university administration. The intention is not to place a limitation upon the authority of the president and board of control but only to guarantee that the exercise of their authority will be carried out in the light of a more effective presentation of the educational interests of the institution. Whether it is obtained in the manner here suggested or in some other way, a more effective educational direction of the university would achieve a better co-ordination of its services and better services. It would help to minimize undesirable rivalries between faculty members, departments, and division faculties. It would help to solve problems of promotion and tenure and it would lengthen the average tenure of university presidents to the benefit of all concerned.

· *With the* · Technicians ·

College Achievement[1]

Interest in predicting scholastic success will probably remain even though increased percentages of high-school graduates enter college and university and the character of college populations shifts. Such interest has been shifted from elimination of applicants for admission to an interest in wiser educational and occupational counseling for matriculants, adjusting the curriculums for a more democratic society in order that each student may more profitably continue his education, and, it has been suggested, that probability tables might be set up as a basis for determining fees.

The latter suggestion is somewhat novel. It has been argued that the poor risk is really more costly to the college in terms of administrative and teaching time; that, while a democratic society should offer opportunities to all its citizens, part of the expense of higher education should be borne by students according to the probabilities of success.

Records of students' test scores have been kept at Hamline University for several years. Most of these tests were given prior to matriculation and offer an opportunity for evaluating their predictive value. Certain measured characteristics have been correlated with average marks made during the student's four years. These traits and the zero-order coefficients of correlation between each of them and college achievement are:

	Correlation Coefficients
1. Average high-school marks or rank in school	0.66 ± .01
2. Scores on College Aptitude Test	0.48 ± .02
3. College-aptitude rank (C.A.T. and high-school rank)	0.59 ± .02
4. Scores on Otis General Intelligence Test	0.52 ± .02
5. Scores on Iowa English Training Test	0.57 ± .02
6. Marks in freshman English	0.71 ± .01
7. Scores on the Neymann-Kohlstedt Diagnostic Test of Introversion-Extroversion	0.31[2] ± .05
8. Scores on the Thurstone Personality Schedule (psychoneurotic)	—0.03 ± .06

The coefficients between the two personality or temperament tests is interesting. There is a low positive correlation between introversion and college achievement, or conversely a low negative correlation between extroversion and college achievement. Emotional stability or psychoneuroticism as measured by the Thurstone test appears unrelated to achievement. This relationship appeared to be a curvilinear rather than a rectilinear one, assuming the nature of a "*U*." A correlation ratio of 0.349 (η) was obtained. The degree of departure from a linear regression, as measured by $\eta^2 - r^2$, is 0.12, which is three times its probable error.[3]

[1]Reported by A. R. Root, Hamline University.

[2]The r between introversion and achievement.

[3]A significant departure from linear regression is indicated where

$$\frac{\sqrt{N}}{1.3490}\sqrt{\eta^2 - r^2} > 2.5.$$

The best single criterion for college success, in this study, is the mark made in freshman English; prior to entrance, the best single criterion is high-school rank. For this college, the pooling of scores on the College Aptitude Test with high-school rank to yield the college-aptitude rank weakens an otherwise better predictive device. The cost of administering the College Aptitude Test is not warranted from the point of view of Hamline University if it is to be depended upon for a single predictive score.

Multiple correlations, using various combinations from among these measures, have been derived with coefficients as high as 0.83 ± .01. After the freshman year, using the best battery of high-school rank, college-aptitude rank, Otis scores, and marks in freshman English, a multiple-correlation coefficient of 0.83 is obtained. Prior to matriculation the best battery yields a correlation of 0.73.

It should be possible, with further experience and additional measures which correlate positively with achievement, to set up a battery with the best predictive weights to yield a multiple-correlation coefficient close to 0.90.

Library Facilities

In the *Library Quarterly* for April national facts regarding the library facilities in institutions of higher education are summarized from 1870 to 1930 by Walter Crosley Eells, of Stanford. He concludes that

> the center of higher education has always been north of the center [of general population]; the library center has been even farther north. In other words, the college and university students of the North are very much better supplied with library facilities than those of the South. The center for higher education was formerly east of the general center, but in the last twenty years it has forged ahead of the general center and in 1930 was in eastern Illinois, while the general center still lingered in Indiana. Higher educational library facilities, however, in terms of number of volumes, have never kept up with the rapid westward development of higher educational enrollments. The library center is far east of the higher educational center, although the distance between them is not so great as in 1920. The library center is also distinctly east of the general center—about the same longitude, in fact, as the general center back in 1890, over forty years ago. Evidently there is distinct need for greater library expansion westward and southward if the students in the western and southern institutions are to be served equally as far as library opportunities are concerned.

Positions and Salaries of Purdue Graduates

Where do they go and what do they do?—"they" being a group of 2,140 graduates from the classes of 1928 to 1933 at Purdue and 1,390 graduates from the classes of 1934 and 1935.[1]

Slightly more than seventy-five per cent of the class of 1934 and 79.4 per cent of the class of 1935 found employment before the end of three months after graduation. Personal contact or visit to the company, personal friends, letter of application, and professors were rated as the four

[1]Elliott, Edward C., and Hockema, Frank C. *Where They Go and What They Do.* Lafayette, Indiana: Purdue University, 1936.

most important factors in obtaining employment for graduates.

In the autumn of 1935, 92.6 per cent of the entire group were employed, 88.8 per cent gainfully, and 3.8 per cent represented by 17 housewives and 37 graduate students. More than two-thirds of those gainfully employed are engaged in occupations for which they were specifically trained by the University. Over two-thirds of the group considered their employment to be permanent.

The data concerning the average annual salaries are particularly interesting. For the class of 1928 the average beginning annual salary was $1,745; for 1932, it was $1,080; for 1935, it was $1,231. The average annual salaries when the survey was made were $2,045 for the class of 1928, an increase over the average beginning salary for that class of $300; and $1,315 for the class of 1932, an increase of $235. The average annual salary in the autumn of 1935 for the class of 1934 was $1,336, an average increase of $153 one year after graduation over the average beginning salary of $1,183 for that class.

"Whither Bound"

President Compton on the occasion of the seventy-fifth anniversary of the founding of Massachusetts Institute of Technology made certain forecasts regarding the future developments of technological education. He prophesied that the importance of technological education will continually increase because of the increasing competition, the necessity of using and husbanding our natural resources more wisely, and the increasing applications of science to human needs and desires.

. . . There will be increasing differentiation between technological and technical training, *i.e.*, between the engineering school and the trade school.

. . . Large industrial units or associations will increasingly establish their own trade schools to train expert technicians for their own special purposes. Private or public technical schools will similarly supply the general needs of the surrounding industrial communities for skilled mechanics, lithographers, textile workers, electricians, draughtsmen, and the like. This system will practically replace the older apprentice system which, for better or worse, is rapidly disappearing.

. . . Undergraduate curriculums in technological schools will increasingly avoid specialization except in rather general fields, and will devote increasing attention to physics, chemistry, and the general principles and methods of engineering, with supplementary education in social science and training in the art of exposition. Such broad and basic training is needed to give the vision and adaptability required for positions of responsibility in a world of activities which are increasingly dependent on applications of science in new and varied ways.

. . . As a corollary, the increasing need for many technological specialists will be met by the graduate curriculums, and we may expect a continuation of the recently growing emphasis on graduate study.

. . . We will see increasing differentiation in scope and more logical adaptation to environment in our colleges and universities. This will be forced upon them by competition or achieved voluntarily after wise appraisal of opportunities. . . .

Obviously this tendency is more pronounced in the higher grades of the educational system, such as the pro-

fessional and graduate schools. We will, therefore, see many a smaller or less favorably situated institution drop its ambitious attempts to encompass the whole field of education and concentrate its resources to do the best possible job as an undergraduate or a junior college, perhaps retaining some special field of local significance. At the same time, the higher ranges of education will be concentrated in the most favorably situated institutions. Even among these, the selective process will operate, and we will see a few of them emerge as superprofessional schools, with the graduate aspect strongly emphasized.

Research will become a continually more important activity in the leading technological schools. Two important factors conspire to bring this about, one pedagogical and the other social.

As to the first of these, it will suffice to remark that research, *viz.*, investigation and report of some problem conducted intensively and relatively independently by a student, aided by all the resources of library, laboratory, and consultation which he can marshal, supplies a test and training for an important element of his future career, which are not afforded by ordinary classroom or laboratory methods of instruction. Research, as for graduation theses, is a more expensive type of training than lecture, quiz, and laboratory exercise; it is far more difficult to handle properly by the faculty, but if so handled it is likely to be fascinating to the student. I believe research to be capable of great development as a feature of education, both graduate and undergraduate, and those schools which are able to handle it adequately will take a predominating place in the educational world.

The social basis for research in educational institutions lies in the combination of urgent public need for research and unique opportunities for performing some kinds of research in educational institutions. Such institutions have extensive and varied laboratory equipment, large staffs in many related fields of science and art, and a great supply of young men available as students or apprentices to work under expert guidance. There is thus a dovetailing of interests and facilities between education and research, which is mutually most favorable.

Public welfare calls for research from a multitude of angles; new developments in industry, public health, agriculture, and all technical fields depend on progress in pure science and development of new materials, processes, and methods. While industrial organizations can profitably conduct research on problems related to their specific interests, and governmental agencies can properly undertake research in specific fields of wide public interest, none of these is justified or equipped, as are the educational institutions, to engage in the general advancement of knowledge on which all depend in the last analysis.

For such reasons I look for an increased activity in research in the technological schools and for their support by the public in this activity.[5]

[5]Compton, Karl T. "Whither Bound?" *Technology Review*, XXXVIII (April, 1936), pp. 266–67.

·The·Reporter·

THE National Youth Administration has been continued by the Federal government for the academic year 1936–37. The three divisions developed in the past will continue to operate: assistance to college students, high-school students, and unemployed youths. The college program will be of about the same proportions as during the past year.

THE Drexel Institute of Arts, Sciences, and Industry has changed its name to the Drexel Institute of Technology. This change has come after a three-year study of the opinions of faculty, alumni, and trustees concerning the desirability of the change. It has been concurred in by the State Council of Education of Pennsylvania and the courts of the state.

BY VOTE of the faculty, Washington University has extended all final examinations from a one-hour to a two-hour period.

LAST winter Phi Epsilon Pi voted to house in each of its chapters a German refugee student during the academic year 1936–37. A number of chapters have already opened their houses to such students.

A STUDENT-employment office has been established this fall at Ohio State University. This new office will take over the part-time employment service formerly rendered by the Ohio Union and also will be responsible for the administration of the projects of the National Youth Administration.

FROM the estate of Miss Virginia Palmer, which was valued at more than $4,000,000, the Connecticut College for Women will receive $500,000.

THE University of Cincinnati has announced a gift of $55,000 to its College of Medicine from the Yeiser family at Cincinnati.

BECAUSE of insufficient funds, Harvard has discontinued its School of Regional Planning. The work of the School, however, will not be discontinued but will be continued as a part of the Graduate School of Design.

IN ORDER to concentrate all efforts of students to initiate Freshmen at Stanford into the traditional practices of student life, a four-day schedule of assemblies and discussions has been planned in connection with a freshman-week program beginning this fall.

THE American Youth Commission has engaged a recognized health expert to plan an investigation during the present academic year of the health of college students. A large number of colleges and universities have been asked to co-operate. Graduate students employed by the National Youth Administration will be

assigned to the project, working under the direction of the health officer in each institution. All health officers are in turn to work in co-operation with the health expert on the staff of the American Youth Commission.

THE United States Congress recently approved the establishment of a Federal Library Service Division in the United States Office of Education and authorized an appropriation of $25,000 for the fiscal year 1936–37. These funds will be used to employ a staff of library specialists in the United States Office of Education who will perform an informational and advisory service for educational and public libraries throughout the country.

PLANNING for its centennial in 1945, Baldwin-Wallace College has announced a campaign to raise a fund of $900,000. The money will be used to enlarge the library, to build a new gymnasium, several dormitories, a student social building, and to enlarge the college endowment fund.

THE well-known geological library of the late Professor J. J. Sederholm, of Finland, is being transported to Mount Holyoke College. The library becomes the property of the college through the generosity of Mrs. Fanny Erbsloh, of New York.

DURING the present academic year Syracuse University will extend its architectural course from four to five years. Fifth-year students will be required to present an original program, to set up an architectural office, and to carry on a miniature architectural business, under the direction of members of the faculty.

AN EDUCATIONAL conference honoring Horace Mann will be held at Antioch College on October 16 and 17. The subject of the conference will be "The Function of Education in Democracy." The speakers include John Dewey, Karl T. Compton, George F. Zook, Charles F. Kettering, and Payson Smith.

THE Rockefeller Foundation has made grants totaling $37,381 to thirty-one members of the Harvard faculty. The main fields of investigation under the grants will be on the topic of "the development of government control in social and economic affairs in the United States."

LATE in July the War Department announced that Reserve Officers' Training Corp units will be established in 25 more colleges and universities, bringing the total up to 279 and increasing the number of persons enrolled from in the neighborhood of 127,500 to about 150,000.

A PROFESSOR of the University of Minnesota, Edgar B. Wesley, is the author of a monograph entitled *Proposed: the University of the United States*. Mr. Wesley reviews the one hundred and fifty year history of the attempt to establish a national university in Washington, arguments for such a university, and the objections raised against it. The last section of his document consists of a bill for the establishment of such a uni-

versity. President Coffman has written the introduction to the document.

DURING July the Rockefeller Foundation issued its annual report for the year of 1935, listing expenditures of $12,725,439 during the year.

Of these funds $2,200,00 were spent in the Division of International Health; $2,733,050, in the field of medical science; $2,426,125, in the natural sciences; $3,807,500, in the social sciences; and $1,169,440, in the humanities.

BECAUSE of financial difficulties, St. John's University at Toledo has closed its doors. A new institution, however, has been organized by the Catholic diocese of Toledo which is to be known as De Sales College, and with it will be affiliated the Toledo Teachers' College.

HOLDING that "social security of faithful employees is of paramount importance, and should come ahead of further departmental or program expansion," the University of Rochester has made available to its eleven hundred employees retirement and death-benefit plans, with life insurance and annuities effective at the age of sixty-five offered to all employees on a mutual contributory basis.

The new plans went into effect July 1. They supplement the contributory retirement plan for faculty members, effective since 1921 at the University, and will be administered by a private insurance company. The University will contribute approxmately 50 per cent of the cost of the retirement-income plan for non-faculty employees and of the life insurance, which is available to faculty and to non-teachers alike. About 74 per cent of the institution's full-time staff serves in non-teaching fields.

IN AN address at Union College, President Gerard Swope, of the General Electric Company, questioned the specialized training given engineering students and pleaded for a broader educational base for technological education. He said in part:

> I think it is a question of serious moment for engineers to consider whether the training in our technical schools and colleges should not be conceived on a broader base rather than as at present, laying emphasis on proficiency in narrow and specialized fields. Many industries are looking for men with the broader training, deferring specialization until they have chosen the field of their life's work.

AN ANONYMOUS ninety-page booklet has been published at Stanford University entitled the *Cheaters' Bible*. It lists a number of rules for achieving high marks in university courses. Some of them are the following:

> Don't study the course; study the teacher.
>
> The classic phrase "I don't know" is taboo. One should always guess.
>
> If the professor calls on the dumbbells, look intelligent even if it's a strain, but never argue with him.
>
> Always select aged professors whose hearts would break if they flunked a student.
>
> Avoid professors who say, "It's probably true to some extent but not to a certain degree."
>
> Intelligence has less to do with success than good grades. Striving toward *A*'s

with a minimum of work develops salesmanship ability which is of greater value than native brains.

A PLAN of indefinite tenure for the staff members of the Oregon State System of Higher Education has just been adopted by the State Board of Higher Education which administers the unified system comprised of the six institutions of higher learning in the state. The board has set up two classifications of its employees—academic and non-academic. The academic includes the teaching faculty and administrative officers and the non-academic, all others. Members of the academic group with the rank of assistant professor or above may be placed on indefinite tenure upon recommendation of the executive head of the institution and the chancellor, and upon approval of the board. All others will remain on a yearly tenure basis.

Gifts

Denison University announces a gift of $300,000 for the building of a new library. The donors are Mrs. George W. Doane and Miss Ida F. Doane, of South Orange, New Jersey.

An anonymous donor has given $25,000 to the Mary Reed Library of the University of Denver for the purpose of opening a Renaissance Room, to be used especially for leisure-time reading.

A bequest of $3,000,000 has been received by Harvard University from the will of the late Mrs. Agnes Wahl Nieman, widow of the founder of the *Milwaukee Journal*. The University has as yet announced no decision as to the employment of the bequest which the donor specified should be used for elevating the standards of journalism.

·Editorial·Comments·

The Recruiting Problem

ANOTHER summer has passed and recriminations again abound on many campuses concerning the recruiting practices followed by other institutions. Desirable students have been kept from registering in one college by the near-slander of a recruiting officer representing another; scholarships have been waved before the much-sought-after Freshman; and many of the doubtful promoting practices of big business have been employed to enlist a freshman class.

Most institutions, of course, continue to pursue ethical methods of seeking new students, but many have sunk to low levels of advertising and buttonholing. Where the situation will lead no one is yet prepared to say, but it is obvious that it requires careful study. Already the North Central Association, the Association of American Colleges, and other groups have begun to seek a way out.

In these discussions one point needs to be reiterated frequently: the answer to the recruiting problem is not the control of recruiters, but rather the establishment of an agency which will make available to the parents of prospective students adequate objective information about colleges. The plea has been made for cooperation between the colleges so that each will keep its recruiters within ethical bounds. This proposal is patently impractical. As long as colleges judge the effectiveness of recruiting officers in terms of the number of students they register for the freshman class, just so long will they use any method that comes to hand to attain their ends. It is perfectly natural that the work of the recruiting officer should be evaluated in terms of his performance. It is no less natural that he should use methods which will produce the results he seeks. He recognizes that if he does not succeed, he will lose his job, making way for another perhaps less desirable individual.

The only way out of this situation is to make available to prospective students and their parents objective information about the institutions in which they are interested. Such an agency should have on file current data about the curricular offerings of each institution, its extra-instructional student life, its standing in the accrediting association to which it belongs, its financial status, the quality of its faculty, and all other pertinent facts. The evils of recruiting might be expected to be dissipated—perhaps with some rapidity—were such a disinterested organization established. Certainly, it seems little better than folly to hope to improve the situation by hortative appeals for improved ethics.

Obviously, a national organization of the sort proposed would be impractical. Colleges in general draw from restricted geographical areas; and

information concerning most Ohio colleges, for example, would be valueless on the Pacific coast or in the South. The job must be done regionally, and it might well be undertaken by the North Central Association and the several other regional accrediting agencies which cover the country. The situation is becoming so serious that action is demanded, and that association which moves in the direction of furnishing the sort of information proposed will be inaugurating a program of desirable leadership.

AN INDIRECT but important value accruing from such an agency would be a recognition by college administrators and faculties that their educational performance would be the determining factor in building up freshman classes. To a large degree this is, of course, already true; but its extension would be inevitable were information required annually or biannually by the suggested agency. If each institution accredited by the North Central Association, for example, should submit itself to an audit of its status in relationship to the new standards being adopted by the Association, the information developed would be exactly what is needed.

These standards have been established at considerable cost, and one of their immediate uses would be their regular application so that interested individuals may check them over to determine whether or not registration for a son, daughter, or a ward is desirable. The stimulus to improved educational practice resulting from such a plan would, over a course of years, be incalculable.

Many poor institutions would object to such publicity of their defects, but the resulting stimulus to improvement would be obviously salutary. Indeed, this indirect value would likely prove to be as important as the resulting solution of the recruiting problem.

W. H. C.

..Reviews..

An Interpretation of German Education

DAS SCHICKSAL DER VOLKSBILDUNG IN DEUTSCHLAND, *by Werner Picht.* Berlin: Verlag die Runde, 1936. 238 pp.

Werner Picht is no stranger to the educational world. Since he owed his spiritual awakening to England, his first accomplishment was a book on the settlements and their religious background. After the war, he founded the first journal for progressive adult education in Germany, *Die Arbeitsgemeinschaft.* Its volumes contain a wealth of unexploited material for the re-writing of the sciences from the adult's point of view. Later he organized the German branch of the German-American Students Exchange. And he came to head a department at the Institut pour la Co-opération Intellectuelle in Paris until Germany left the League. His unvoluntary retirement and unemployment at Paris gave him the detachment which is desirable for the historian of a present-day movement. And so this swan song of German *Volksbildung* has become a classic, as it combines the insight of a fighter with the patience of an observer.

The story, written by Picht, proves to be a tragedy. Its object has ceased to exist. How could it happen?

The *Volksbildung* in Germany was stretched by two contradictory associations. Its very name can tell its secret. For in its one half, *Bildung*, all the idealistic aspirations of the German culture are recorded, the proud memories of Lessing, Herder, Goethe, Humboldt. To *Bildung* the eyes of the academic world and its followers turned for 150 years, of this class of *Gebildeten*, which was the German equivalent for the English "society." During the domination of this class in Germany, *Volksbildung* was an annex to *Bildung* of the individual. It simply meant popularization.

But with the reformers before and after the World War, *Volk* had gained a totally different meaning. *Volk* came to be used for the great society, for community and fellowship, for nation and folks, for any irrational group. And now the classic *Bildung* of the individual in the limited group of the wealthy by intellect was confronted with this irrational, yet spiritual life of autonomous character. *Volk* claimed its sovereignty and balked at *Bildung.* When 1933 came, the folks smashed the walls of the German city of *Bildung*, destroyed academic freedom, and dethroned the educated classes.

Volksbildung, then, between about 1908 and 1933, can best be decried as having been suspended between the "*Bildung*" of the past and the approaching rebellion of the populace. One might infer that *Volksbildung* became a sheer compromise between the two extremes of individuality and folks. It will be the surprise of Picht's book for many that it shows an unexpected aspect of the crusade of German adult education—and public education as well. The leading group in the field left the cheaper way of "bridging" the gulf to the old guard. They themselves made an effort which has much to do with the spiritual awakening in this country now where there is hope for evolution and continuity.

The central group, experienced by the deep shock of the World War, made a genuine effort of rooting itself in the depth of the doom itself and of converting both sides, the educated and the people, to a new spiritual fellowship on the basis of that common experience. One may learn, from the book, that conversion is not only a moral process of personal ethics. The sins to be repented by our generation

are social sins. The conversion is needed for the churches, the universities, the schools, the professions in general since they all have gone astray. That conversion was tried in Germany. That is why a study of this richly documented book may prove worth while for any educator who ponders whether education can be the prophet of the imminent changes in society or not.

EUGEN ROSENSTOCK-HUESSY
Dartmouth College

Economic and Social Problems of Disease

WHY KEEP THEM ALIVE? *by Paul de Kruif.* New York: Harcourt, Brace and Company, 1936. 293 pp. $3.00.

When one talks to Paul de Kruif, one receives the impression of an earnest, profound scientific worker who is greatly concerned about disease and its effects on his fellowmen. His personality is exuberant, his manner expansive. Indeed, his whole appearance, his speech, and his actions are on a large and expanding scale, fully reflected in all of his writings. The book called *Why Keep Them Alive?* exceeds all the other contributions of this writer in these characteristics.

Microbe Hunters and *Hunger Fighters* dramatized the great accomplishments in the fields of medicine and nutrition in the past. *Men against Death* was con cerned with more recent scientific pioneering against disease. But now De Kruif concerns himself not only with disease, but also with the economic and social problems that surround disease. His contribution is not constructive; it is instead a frantic presentation of some of the worst effects of poverty, bad housing, and disease that he has seen, and a repetitious, annoying, querulous, cross-examination of his public as to why these conditions are permitted to exist.

It is not surprising, therefore, that there should be occasional exaggerations of what medicine has done or can do in relationship to these problems. The tannic-acid treatment for burns is now fairly well understood by most of the medical profession. It is not neglected, but it is not so good as the reader of *Why Keep Them Alive?* will think it is.

Even the problem of adequate nutrition is surrounded by many difficulties which have not been apparent to Paul de Kruif. In Illinois, it was necessary to work out four diets for those on relief, because even hungry Italians preferred spaghetti to salt pork, and even starving Jews would not eat salt pork, but would tackle any amount of herring.

Notwithstanding such minor errors of judgment or vision, *Why Keep Them Alive?* is worth any one's time. It is full of first-hand impressions of some of the problems of medical science in relationship to disease, of some of the difficulties that our government is having in meeting these problems, and a good deal of the "cussedness" of human nature which greatly complicates the solution of these problems.

Books like this one serve to awaken the public and to make them more conscious of what can be done when our society is more perfectly organized for the common good. Those intimately concerned with the evolution of medicine and its practice know that an overnight revolution may do more harm than good. Those concerned with our economic situation have the same point of view.

MORRIS FISHBEIN
Editor, Journal of the American Medical Association

Student Personnel Activites

THE EVALUATION OF HIGHER INSTITUTIONS, NUMBER V: STUDENT PERSONNEL SERVICE, *by Donfred H. Gardner.* Chicago: University of Chicago Press, 1936. xx+235 pp. $2.50.

This publication is the fifth of a series of monographs describing studies conducted in behalf of the North Central Association of Colleges and Secondary Schools. It attempts to evaluate, as areas of student-personnel activity, the problems of admission, orientation, records, counseling on educational, vocational

and personal questions, extra-curricular activities, financial aid, student health, housing and boarding, placement services and discipline.

Each of these phases of what have generally become known as "personnel functions" is carefully analyzed and discussed in an understanding, informative fashion. One can gather therefrom a thorough appreciation of the valuable, interrelated aspects of these student services, which too often are administered as separate rather than as integrated and co-operative functions. The officers and faculties of many institutions could learn much to the advantage of their students through perusal of this volume.

Yet the reviewer finds it difficult to accept as reasonable or widely significant the techniques employed for rating colleges in respect to their effectiveness in conducting these several student services. The primary purpose of this study seems to have been the development of quantitative scales by which colleges may be graded as to the efficiency of their personnel procedures. The fifty-seven institutions co-operating in this study are probably as different as the "fifty-seven varieties" long famous in another realm. Of the fifty-seven, only three hold membership in the Association of American Universities. Several of the best-known colleges and universities in the North-Central area are not included among those co-operating in this study; and many other leading institutions with well-developed personnel organizations are not represented therein because of their location outside of that region.

But the objections mentioned earlier to the technique and procedures of this investigation transcend questions of geographical limitation or curricular standards. Rather are they based upon an inability to accept as valid the numerical schedules proposed by the authors for rating colleges in respect to the efficiency or completeness with which they perform various personnel functions. One of the simplest of the rating charts suggested, that for orientation of students, is here presented for purposes of illustration in Figure 1. By this means the fifty-seven colleges rated obtain scores ranging from 45 down to 0, with corresponding percentile ranks. These are then plotted on a curve. The authors explain that "by the use of these normative data it is possible to indicate the position of any institution with reference to the remainder of the group."

Analagous rating charts and percentile curves have been developed for the

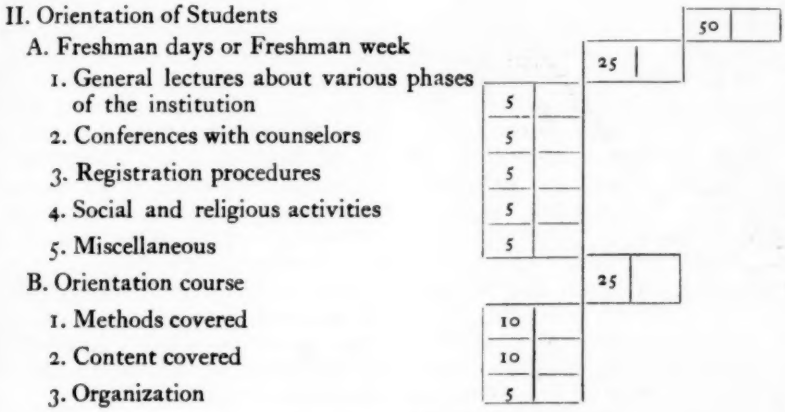

FIG. 1. Score Card II, orientation of students[1]

[1]Gardner, *op. cit.*, p. 48.

other personnel functions investigated. These "score cards" and the weights assigned to their component parts are based in part upon study of the colleges in question by four investigators, each of whom independently "set down a subjective rating for the various institutions, listing them in the order of general excellence." The composite of these judgments "has been used as an independent criterion of institutional excellence"; and tables are presented showing what percentage of the institutions thus rated as superior carry on this or that method of dealing with various personnel functions.

The effort thus to deal quantitatively with the problem of classifying and "scoring" such procedures is no doubt laudable and it has been honestly and painstakingly attempted. Formulation of such scales, however, in respect to how much weight should be accorded each item on the "score card" is to a large degree necessarily arbitrary and subjective. Many of these items probably play a more important rôle at one college than at another; and the mere fact that several institutions perform the same functions; for example, have honors courses, or provide for remedial instruction in reading, fails to determine how effectively they do so. In short, the techniques employed and the machinery devised at great pains to quantify essentially qualitative data appear neither practical nor appropriate for uniform application to institutions of widely varying objectives and standards.

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Inadequate Recognition

THE DEAN OF THE SMALL COLLEGE, by *Clyde A. Milner*. Boston: Christopher Publishing House, 1936. 151 pp. $1.75.

The author states an avowedly Christian philosophy of education for the small liberal-arts college. From the point of view of this philosophy he seeks "to survey the office of dean as it is now administered in small liberal-arts colleges" and "to see more clearly what the office should be in the light of a Christian philosophy of education."

The author's philosophy of education should prove suggestive and stimulating to persons interested in the work of the church-related college. College deans will be interested in the list of functions which the deans say they have and in those which they say they should have.

The book as a whole seems to give inadequate recognition to the fact of individual differences among deans and among colleges. It seems to assume that "the place of the dean within the administrative organization of the small college" can be determined chiefly on the basis of a rough statistical analysis of prevailing practices of deans as reported in questionnaires provided this analysis is made from the viewpoint of the Christian philosophy of education. This assumption ignores factors of major importance which arise out of the fact of individual differences.

Many readers will regret the paucity of concrete suggestions as to how the dean may make the proposed philosophy of education functional in the life of a specific institution.

R. W. OGAN
Muskingum College

Education through the Fine Arts

By WILLIAM SENER RUSK

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In Lay Magazines

"Harvard: the Future," by Alfred North Whitehead, *Atlantic Monthly*, September, 1936.

With its tercentenary celebrations, Harvard marks the accomplishment of its process of growth. "The history of Harvard is no longer to be construed primarily in terms of growth," writes Mr. Whitehead, "but in terms of effectiveness." The center of civilization has shifted to the North American shores of the Atlantic. Will Harvard fashion the intellect of the twentieth century as did Cambridge and the University of Paris in an earlier day?

With that question the author enters into a discussion of the general character of human knowledge: its division into certainty and probability, or, more exactly, clarity and vagueness. But some selection is needed; "the human mind can only deal with limited topics, which exclude the vague immensity of nature." Thus the university must be founded on the tradition of learning in respect to both sides of its activity; namely, the enlargement of knowledge and the training of youth. The problem, however, is to adjust the activities of the learned institution so as to suffuse them with suggestiveness: "fundamental progress has to do with the reinterpretation of basic ideas." Furthermore, while the inculcation of some idea of order is one of the preliminary stages of education, order must go hand in hand with enterprise; the university should be an integral part of our modern life.

According to the author, "A university should be, at one and the same time, local, national and world-wide." The first purpose of American university life, therefore, is the maintenance of a great civilization on our continent. "But the ideal of the good life, which is civilization,—the ideal of a university,—is the discovery, the understanding, and the exposition, of the possible harmony of diverse things. . . . Thus it is the peculiar function of a university to be an agent of unification."

And it is Mr. Whitehead's thesis that the universe is without bounds, learning is world-wide. Today, Harvard is the greatest of existing cultural institutions. Will Harvard rise to its opportunity?

"Confessions of a Poetry Teacher," by C. M. Webster, *American Mercury*, September, 1936.

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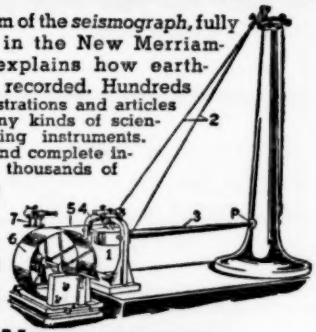

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This volume reports a series of researches that have been carried on under the direction of Dr. Mort in the past two years and seeks to interpret the results in terms of their potential bearing on future Congressional action. In addition to the proposal of a plan of federal support to be built into our school finance structure, this study deals with such topics as the following: The Constitution and federal support for education, Our experience with federal aid and control, Federal support and equalization of opportunity, Definition of federal responsibility, The efficiency principle as related to federal support, Treatment of private and parochial schools, Rehousing of rural schools, Adult education, Higher education, Scholarships, Separate schools for Negroes, Indigenous peoples, Education in the territories and in special federal areas.

334 pp. Cloth, $3.70

Conference on Examinations

Conference Organized and Proceedings Edited by PAUL MONROE, Director of the International Institute, Teachers College, Columbia University.

This volume gives a verbatim report of the second conference on examinations held at Folkestone, England, in June, 1935, under the auspices of the Carnegie Corporation, the Carnegie Foundation, and the International Institute of Teachers College. The conference was attended by distinguished educators from many parts of the world who reported the findings of their committees. Members from the United States taking an active part in the meeting were Paul Monroe, *chairman*, Walter A. Jessup, Charles H. Judd, I. L. Kandel, Frederick P. Keppel, and E. L. Thorndike.

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